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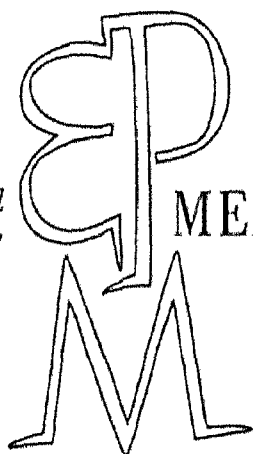
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DIVERSITY OF SELF ENDORSEMENTS AS A MEASURE OF INDIVIDUAL DIFFERENCES IN PERSONALITY

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Purpose

THE research outlined herein represents an effort toward the measurement of mental health. It is hypothesized that the dichotomy between mental hospital patients and community persons is indicative of an underlying continuum in which the mental health of each person shades into the mental health of others by imperceptible and now unmeasured degrees.

Method - General

The method here outlined for studying this hypothesized mental health continuum developed out of a comparative consideration by the investigator of mental hospital patients and community persons. The purpose of the consideration was to search for a single characteristic in which nearly all mental hospital patients appear to differ from community persons. This single factor characteristic was then hypothesized to represent a mental health continuum. The nature of the hypothesized characteristic serves as a guide to determine the initial content of a trial instrument for measuring mental health. Using the hypothesis and a criterion of internal consistency, the instrument is standardized on community persons. The validity of the instrument for measuring mental health is indicated by an empirical determination of the extent to which the instrument differentiates between community persons and mental hospital patients.

Evidence for the Hypothesis

A single characteristic in which nearly all mental hospital patients differ from community persons is indicated by at

1. *Theoretical*.—Lecky in his book, *Self-Consistency (A Theory of Personality)* (1), maintains that predictable and consistent behavior is characteristic of mental stability and that the opposite kind of behavior is indicative of mental instability. This view of his is summarized in the following quotations:

1. The main scientific issue at stake in the controversy is the predictability of behavior. Our position is that predictability is a function of stability and therefore of the basic need for consistent self organization (p. 19).

2. This compulsion to unify and harmonize the system of ideas by which we live provides the basis for the dynamic aspect of the theory. It is only when a person is unable to rid himself of inconsistencies that psychological problems arise (p. 137).

2. *Clinical Observations and Interpretations*.—Lecky's view of mental stability may be supported with remarks from Rogers (5) in his 1947 American Psychological Association Presidential Address. Rogers says of these remarks, that they were "presented as clinical observations and tentative hypothesis, quite apart from any relationships to past or present thinking in the field of psychology," (p. 366). The remarks from Rogers which seem to support Lecky's view of mental stability are as follows:

1. When all of the organic perceptual experiences—the experiencing of attitudes, impulses, abilities, and disabilities, the experiencing of others and of reality—when all of these perceptions are freely assimilated into an organized and consistent system, available to consciousness, then psychological adjustment or integration might be said to exist (p. 364).

2. It might be proposed that the tensions called psychological maladjustment exist when the organized concept of self (conscious or available to conscious awareness) is not in accord with the perceptions actually experienced (p. 365).

3. *Empirical Evidence*.—Empirical evidence which can be used in support of the views of Lecky and Rogers, just outlined, is found in Zubin's studies of response patterns in personality adjustment inventories. Zubin (6) has treated the individual answers to questions of personality-adjustment inventories in combinations. A triad combination is illustrated

by "yes" to question one, "yes" to question two, and "no" to question three. Other illustrations of triads are any of the other combinations of answers to the three questions. Zubin has isolated questions for which the characteristic answer combinations of community persons differ from the characteristic answer patterns of mental hospital patients. Zubin's interpretation of his results is quoted as follows:

1. Apparently, both the normal and the abnormal groups show considerable pattern integration. The normals, however, yield more integration than the abnormals (p. 411).

2. It is a moot question whether insanity is characterized by the total breakdown of the normal patterns of response involved in thought or whether it is characterized by the establishment of new, queer, and abnormal patterns of response. The results of this study indicate the possibility that both processes may take place (p. 412).

These lines of evidence indicate that it is reasonable to hypothesize, for investigation, a personality factor which restricts community persons in the diversity of responses that they give in a standardized situation. This restrictive factor is presumably less effective in mental hospital patients than community persons. In a clinical situation a patient is not restricted from making the two following statements in close juxtaposition:

1. "My dearest friend just died."
2. "I am the happiest person on earth."

Neither of these statements, considered separately, is indicative of mental illness. Considered jointly, in relationship to the hypothesis herein proposed, they are thought to be indicative of mental illness. They are widely diverse responses, in the sense that no one community person usually gives both of them near simultaneously in the same situation.

Method--Statistical

The statistical methods here described for investigating the hypothesized factor of individual differences in the diversity of responses have been previously outlined (3). Their importance for understanding both the factor and the additional research here reported make it desirable to describe them again

Measurement of the factor under consideration is dependent in part upon an index of the diversity of responses under standardized conditions. The typical personality inventory represents a standardized question situation which solicits one of three responses to each question. When these questions are studied in pairs, there is then one of nine pairs of answers solicited to each two questions.

Consider, for example the two following questions:

1. Do you enjoy taking big chances? Y N ?

2. Do you like to be admired by others? Y N ?

Each of these questions has the following possible answers:

Y—for "Yes"

N—for "No"

?—for undecided.

The nine possible pairs are then $Y_1 Y_2$, $Y_1 N_2$, $Y_1 ?_2$, $N_1 Y_2$, $N_1 N_2$, $N_1 ?_2$, $?_1 Y_2$, $?_1 N_2$, and $?_1 ?_2$.

After administering these questions to a group of community persons, an index of diversity is computed for the paired answers. This index is illustrated in the case of pair $Y_1 Y_2$. Suppose the following tabulation resulted from administering the above two questions to 100 community persons:

Answers	Y_1	N_1	$?_1$	Y_2	N_2	$?_2$				
Number	40	17	43	55	25	20				
Answers	$Y_1 Y_2$	$Y_1 N_2$	$Y_1 ?_2$	$N_1 Y_2$	$N_1 N_2$	$N_1 ?_2$	$?_1 Y_2$	$?_1 N_2$	$?_1 ?_2$	
Number	25	10	5	10	5	2	20	10	13	

The above table shows that 40 persons answered "yes" to question one; 55 answered "yes" to question two; and 25 answered "yes" to both questions one and two. An index of the diversity between yes_1 and yes_2 is then given by the formula:

$$\frac{\overline{Y_1 Y_2}}{\sqrt{Y_1 \times Y_2}} = \frac{25}{\sqrt{40 \times 55}} = .54$$

It will be noted that this index varies from 0.00 to 1.00, that 1.00 means minimal diversity and that the diversity increases as the index decreases to 0.00.

The next problem is to convert the index of diversity into some linear measure of diversity. This involves either a mathematical determination of the relationship between index and linear measurement or an assumption of the relationship.

The latter alternative is followed here. The validity of the assumption can be subsequently investigated, and this is planned for a later study. The investigation of the validity of the assumption is postponed until later because it is extremely laborious if applied to all questions of the inventory. The postponement enables the investigator to apply it to selected questions chosen in accordance with indices of effectiveness in the measurement of the factor under consideration.

The relationship between the index and the linear measure of diversity is here assumed to be that given by the normal curve of probability, where the index equals the ordinate "Y" and the linear measure equals the abscissa "X," expressed in terms of deviation from the mean. The equation of the relationship between the two variables is then that represented by the normal curve of probability. Using this assumption, the linear diversity "X" between two answers can be found in prepared tables computed from the formula for the normal curve. The tables used are those in which the maximum ordinate is one. These tables are entered with the value of Y, i.e., the empirically determined index of diversity, to obtain the value of X, the linear measure of diversity.

It has just been shown how pairs of answers can be scaled according to the degree of diversity between the answers. This could be done for all possible pairs of answers to the questions of a personality inventory, comparing the answers of each question with those of every other question. An alternative method is to compare those of question one with those of two, those of two with those of three, those of three with those of four, etc. This latter method was chosen because it gives a greater coverage of questions without being prohibitive in the amount of statistical computations. A wide range of coverage of questions is considered desirable because so little is now known concerning the type of questions that may eventually prove to be most fruitful.

After pairs of answers have been scaled as herein outlined, each subject's score is obtained by taking a composite of the scale values of the pairs of answers given by him.¹ In this

connection, it will be remembered that each subject gives but two answers to each two questions, one answer to each question of the pair. These two answers represent one pair of answers out of a total of nine possible pairs of answers, all of which usually have different scale values of diversity.

Related Research Findings

Before developing further the research herein reported, it is well to summarize as background material, some of the findings of the study in which the statistical methods for measuring diversity of response were developed (3). These findings are briefly outlined as follows:

1. Two personality inventories, the *Bernreuter Personality Inventory* and the *Strong Vocational Interest Blank*, widely different in content, gave a correlation coefficient of $0.63 \pm .04$ when scaled and scored by the method herein outlined. This coefficient was obtained using mental hospital patients and college students as subjects in a combined group. This finding indicates that there is a psychological factor which determines the relative diversity of answers that individuals give to the questions of personality inventories.
2. On this factor, the scores of male mental hospital patients differ significantly from those of male undergraduate college students. (The critical ratio of the difference between the two mean scores of the two groups studied is 10.09 for the more sensitive of the two personality inventories used.)
3. When the two questions of a pair tend to be synonymous in meaning, though using different words, they are less effective in differentiating between male undergraduate college students and male mental hospital patients. Two examples of highly synonymous pairs follow:
 1. a. Do you enjoy being admired by others?
b. Do you enjoy being praised by others?
 2. a. Would you like, dislike or be indifferent to being a marine engineer?
b. Would you like, dislike or be indifferent to being a mechanical engineer?

A highly diverse pair of answers to the questions of example "1" would be "yes" to question "1a" and "no" to question "1b." This diversity is so great that even mental hospital patients often give a less diverse pair of answers, such as "yes" to "1a" and "yes" to "1b" or "no" to "1a" and "no" to "1b." When the degree of diversity is less obvious than it is in the above examples, then mental hospital patients give more diverse answers than do college students.

A statistical criterion was developed for measuring the extent to which two questions are synonymous (3, pp. 92-94). It was shown to be effective in selecting those questions which differentiate more effectively between male college students and male mental hospital patients. It was also shown that 18 of the most effective items on this criterion when combined into a single sub-test have a factor loading equal to or greater than the 72 items lowest in the criterion. (The factor loading for the sub-test of 18 items is .56, and for the sub-test of 72 items it is .50, based on a study of 47 college students. There is no overlap of items between the four sub-tests used in the study.) This criterion is hereinafter referred to as criterion *one*.

Present Research

We now have the background for outlining the research of the present study. In this connection, it will be recalled from the above discussion that criterion *one* deals with a single aspect of pairs of questions, namely the extent to which the two questions tend to be synonymous. There may be other characteristics of questions which influence their effectiveness in the measurement of the factor under consideration. To discover some of these characteristics represents the purpose of the study now being outlined.

Another criterion of the efficiency of each pair of questions was computed and substantiated as effective by means of the following analysis:

1. As outlined in the previously mentioned study of this factor, the *Bernreuter Personality Inventory* was administered to 47 male college students and to 36 mental hospital patients (3, p. 87). These results were further analyzed in this study.

2. For each subject, there is a composite score of the diversity of answers for the first 72 pairs of questions of the inventory. Only the first 72 pairs were scaled for diversity because of the large amount of statistical work involved.
3. There is also, for each subject, a score for each pair of questions of the study. All scores are in equivalent units.
4. The mean of differences between the composite scores and the scores on any given pair of questions represents an index of internal consistency and this index is hereinafter referred to as criterion *two*. It was computed using the result of students only.
5. The Bernreuter Inventories which had been scored for diversity of answers, using 72 pairs, were now re-scored for both patients and students using only the 36 pairs which have the smaller mean deviations (criterion two). With the number of pairs reduced from 72 to 36, the critical ratio of the difference in mean scores between the two groups, patients and students, increased from 10.09 to 11.97. This result indicates that criterion *two* is effective in picking out the more discriminating pairs of questions.

The content of the efficient pairs of questions was reviewed in relationship to the less-efficient in an effort to discover psychological meaning in the differences between them. If the nature of the difference can be described, then this description should be effective in selecting additional items for measuring the factor under consideration. Listed below are the four most efficient and the four most inefficient pairs of questions, based on criterion two.²

Efficient Pairs

1. Do athletics interest you more than intellectual affairs?
2. Do you consider yourself a rather nervous person?
1. Do you feel self-conscious in the presence of superiors in the academic world?
2. Do ideas often run through your head so that you cannot sleep?
1. Does it bother you to have people watch you at work even when you do well?

² Permission to quote these items from R. G. Bernreuter's *Personality Inventory* has been granted by the author and the publisher, the Stanford University Press, Stanford University, California.

2. Do you often experience periods of loneliness?
1. Do you find that telling others of your own personal good news is the greatest part of the enjoyment of it?
2. Do you often feel lonesome when you are with other people?

Inefficient Pairs

1. Do you dislike finding your way about in strange places?
2. Are you easily discouraged when the opinions of others differ from your own?
1. Are you careful not to say things to hurt other peoples' feelings?
2. Are you easily moved to tears?
1. Do you make new friends easily?
2. If you are dining out, do you prefer to have someone else order dinner for you?
1. Do you usually feel a great deal of hesitancy over borrowing an article from an acquaintance?
2. Are you greatly embarrassed if you have greeted a stranger whom you have mistaken for an acquaintance?

In studying the efficient and inefficient pairs of questions, it appears that the answers to the latter questions can usually be based on more objective criteria than can answers to the former group. This difference between the questions indicates that criterion *two* yields psychologically meaningful results, and suggests that these observed differences can be used in preparing additional inventory questions which should result in effective measurement of the psychological factor under consideration.

General Interpretation

The findings indicate that there is a psychological factor of individual differences which restricts people in the diversity of their answers to the questions of personality inventories. This factor appears to be related to observational differences in groups of people in that male mental hospital patients give more diverse answers than do male college students. Personality inventory questions which have to be answered on the basis of subjective criteria seem on the average to be more sensitive than those which can be answered on the basis of objective criteria. This last conclusion may be related to the observation that many mental hospital patients appear to be well integrated in certain mental content areas. These areas may be ones which the patients regard from objective points of view. It

may be that these patients are much less integrated only in those areas which they regard from more subjective points of view. This possible distinction in degree of integration may be related to the finding that pairs of questions which are highly synonymous are on the average less effective measures than are less synonymous pairs. Perhaps even mental hospital patients regard it too obvious a contradiction to give diverse answers to synonymous questions. This may be because synonymous questions tend to demand an objective consideration, especially when the two questions appear in juxtaposition as they did in the studies here considered. These possible interpretations can be related to certain theoretical positions in the field of personality.

It is interesting to consider the findings herein outlined relative to Lewin's theory of personality (2). Particularly significant in this connection is his statement that "within mind there are regions of extremely various degrees of coherence—" (2, p. 57). This may be the basis for our finding that subjectively regarded questions seem to be more sensitive to the factor under consideration. It may be that the questions which we have described as requiring objective answers tend to tap the "reality levels" of the "psychical energies." In considering this possibility, it is helpful to realize that from Lewin's point of view, "The functional firmness of the wall between the self and the environment depends not only upon the age but upon the individual characteristics of the person" (2, p. 108). This may be one of the reasons why there is not a clear cut distinction on the basis of subjectivity—objectivity between our efficient and inefficient pairs of questions. Some of the questions that are objectively regarded by some subjects are subjectively regarded by others, and vice versa, depending on the lines of demarcation in the individual subjects between self and environment.

Researches on Interpretation

The theoretical positions just outlined suggest that the factor under consideration may be related to personality integration. This suggestion is supported by the finding that male mental hospital patients give more diverse answers than do male college students.

One investigation of the above suggestion has been reported (4). Its method was to attempt to modify assumed integration by instructions to the subjects, college students, and to study its effect on diversity of answers to questions of the *Bernreuter Personality Inventory*. The subjects were instructed to assume successively three different systems of beliefs, each system differing in integration as evaluated by psychologists. The subjects answered the inventory questions three times, using the systems of beliefs as background for their answers. Each of these three times they used a different system of beliefs. The scores on the inventories reflected the systems of beliefs in the sense that those systems which were rated high on disintegration by psychologists resulted in highly diverse answers, and those that were rated as much less disintegrated resulted in much less diverse answers. These results were accepted as some evidence that the factor under consideration is related to personality integration.

The theoretical considerations together with the research findings justify more fundamental research designed to determine the nature of the factor of diversity of answers and its relationship to personality integration. These more fundamental researches are now in progress. They involve further applications of the criteria herein outlined for the selection of effective pairs of questions, together with factorial studies of pairs of questions for the same purpose, and in search of the nature and number of factors involved in the diversity of answers—to the end that effective tests of the factor or factors may be developed and studied in relation to their abilities to discriminate between groups such as mental hospital patients and community persons. Particularly significant in this connection is a study by Stanley Grzeda, toward his doctorate at the University of Illinois. He has requested psychologists to rate paired answers to questions according to the relative degrees of personality integration reflected in them. Each psychologist was requested to use his individual definition of personality integration. The paired questions from which the paired answers derive, are being factor analyzed, using the values assigned by the ratings of the paired answers, to determine the nature and number of factors involved. Grzeda is using questions identical with those of the above outlined

studies, and his results will be compared with the results from those studies.

Tests will be developed from Grzeda's results, provided the factorial studies justify such a procedure, and these will be applied in the studies of groups such as mental hospital patients and community patients.

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CURRENT PRACTICES IN EVALUATION IN CITY SCHOOL SYSTEMS

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THE purpose of this study is to review current practices in programs of evaluation in city school districts throughout the country. Attention is given to the direction of the programs, handbooks for teachers, evaluative devices used, testing programs, cumulative records and critical problems currently confronting those in charge of evaluation.

Data were collected by means of (1) an analysis of handbooks, cumulative records, and bulletins on evaluation as published by school systems; (2) a checklist on selected aspects of evaluation; and (3) conferences with those in charge of evaluation in selected cities. One hundred school districts were invited to cooperate in the study; sixty-eight replied by completing the checklist sent to them and by forwarding pertinent published materials.

Direction of the Program

In reply to the question, "Do you employ a director of evaluation?" 52 school systems stated that they did; 16 that they did not. The various titles of those in charge of the program are shown in Table 1, the title "School Psychologist" being most frequently employed.

Guide for Teachers

Only one-fifth of the school systems reported that a guide or handbook on evaluation is provided for teacher use. These vary in size from three-page mimeographed bulletins to detailed printed booklets of over two hundred pages. Listed below is a composite selection of the items they cover which appear to be most helpful to teachers. These have been compiled from

TABLE 1

Title of the Individual Directing the Evaluation Program in Fifty-Two City School Systems throughout the Country

Title	Cities	
	Number	Per cent
School Psychologist.....	8	15
Director of Research.....	6	11
Director of Educational Research.....	4	8
Assistant Superintendent of Schools.....	3	6
Director of Curriculum.....	3	6
Director of Guidance.....	3	6
Assistant Director of Curriculum & Research.....	2	4
Director of Research & Guidance.....	2	4
Director of Bureau of Child Study.....	1	2
Director of Tests & Measurements.....	1	2
Supervisor of Tests & Measurements.....	1	2
Coordinator of Evaluation & Guidance.....	1	2
Assistant Superintendent, Curriculum & Instruction.....	1	2
County Supervisor.....	1	2
Director of Research & Curriculum.....	1	2
Supervisor, Department of Testing, Psychology, & Atypical Education.....	1	2
Coordinator in Department of Pupil Personnel (Group testing).....	1	2
Director of Measurements, Statistics & Research.....	1	2
Director, Department of Educational Investigation & Measurement.....	1	2
Director, Reference & Research.....	1	2
Divided among several departments.....	1	2
Director of Pupil Personnel.....	1	
Supervisor of Special Education.....	1	2
Coordinator of Guidance & Testing.....	1	2
Director of Child Study & Service.....	1	2
Supervising Teacher, Director of Instruction.....	1	2
Supervisor, Records Department.....	1	2
Director, Department of Measurements & Standards.....	1	2
Director of Testing.....	1	2

everal of the handbooks; they do not reflect current practice in all school systems.

Point of View

- Evaluation and educational purposes
- Evaluation as a process
- Purposes of evaluation
- Basic needs and differences of children
- Growth characteristics and evaluation
- Guiding principles of evaluation
- Characteristics of teachers who understand children

Using Informal Devices

- Guides for observing behavior
- Anecdotal records
- Sociograms
- Group discussion
- Interviews
- Case studies

- Case conferences
- Students in self-evaluation
- Checklists, rating scales, inventories
- Logs and diaries
- Files of sample materials
- Conferences with parents
- Samples of informal devices
- Recordings and stenographic reports
- Using tests
 - Scope and schedule of the testing program
 - Procedure for reviewing tests
 - Guide to test administration
 - Interpretation of tests—uses and abuses
 - How to construct tests—sample items
 - Relating test scores to achievement tables
 - Bibliography of tests
- Organizing Information
 - Using cumulative records
 - Making case studies
 - Making profiles
 - Making reports to parents
- Special Problems
 - Promotion and grade placement policies
 - Adapting instruction to discovered needs
 - Evaluation and curriculum planning
 - Commonly used statistical terms and devices
- Bibliography on evaluation

Evaluative Devices Being Used

The many different kinds of evaluative devices currently being used are listed below in Table 2.

TABLE 2
City School Systems Reporting the Use of Various Evaluative Devices

Evaluation Device	School Systems Using Number	Per cent
Tests.....	68	100
Interviews.....	54	79
Case studies.....	54	79
Case conferences.....	47	69
Observation.....	47	69
Group discussion.....	46	68
Anecdotal records.....	35	51
Questionnaires.....	33	49
Files of sample material.....	33	49
Inventories.....	31	46
Rating scales.....	28	41
Checklists.....	22	32
Logs or diaries.....	8	12

In addition to the devices listed above, individual school systems reported the use of: evaluative criteria, surveys, follow-up studies, statistical analyses, social case work, psychiatric devices, health records, parental conferences, staffs and clinics, sociometric techniques, pupils' graphs scores on achievement tests), recordings, films and photographs, stenographic reports, and profiles.

Informal teacher-made tests are used in all systems. Interviews and case studies are being used as evaluative devices in more than one-half of them. Logs, diaries, and checklists are used by one-third or fewer of the school systems. Although evaluation by means of observation is reported by only 69 per cent of the respondents in this study, it undoubtedly is used by most teachers as a practical method of appraising changes in child behavior.

Tests Given in Various Grades

The different types of tests, and the grades in which they are given, are shown below in Table 3.

TABLE 3
City School Systems Giving Various Tests with Grades in which Administered

Type of test	Per cent giving tests in grades K through 12											
	K	1	2	3	4	5	6	7	8	9	10	11 12
Mental.....	12	43	10	35	35	16	49	31	38	22	32	19 25
Reading (including readiness tests).....	12	44	29	35	21	24	22	18	21	15	10	6 3
General achievement.....		4	12	29	34	28	51	26	29	15	12	12 9
Arithmetic.....		1	1	9	12	7	12	12	21	6	3	7 3
Language arts.....		1				4	3	4	4		1	1
Interests & Social adjustment.....									3	10	7	6 9

Reading readiness and mental tests are given by approximately the same percentage of the school systems in Kindergarten, Grade I and Grade III. The use of mental tests tends to become somewhat higher in the advanced grades, reaching a peak in Grade VI. Achievement tests are not commonly used until Grade III, reach a peak in Grade VI, and decrease in frequency of use through the secondary-school grades. Tests in language arts other than reading are used in Grades IV through VIII by a very small percentage of the systems. Preference, interest, personality, and social adjustment tests are

used by a few school systems in the secondary schools. Other tests of mental ability, personality, and special aptitudes are reported as being available upon special request in several school systems.

Cumulative Records

Cumulative records are used by 54 of the 68 cities reporting. An examination of these records shows that care is being taken to provide the teachers with child accounting forms that make readily available the results of the various devices used in evaluation. The most promising type of cumulative record is the folder, in which may be kept material pertaining to the pupil's physical, educational, social, and emotional growth. The following summary indicates the topics that are included in the most complete forms:

1. *Personal Information*: Name, date, place, and evidence of birth; address and telephone number; race; nationality; sex; photograph
2. *Enrollment and Attendance*: Date of enrollment; withdrawal and readmission; number of days of attendance; absence and tardiness; record of schools attended (with dates)
3. *Home and Community Information*: Parents' or guardians' names; occupation, alive or deceased, birthplace, education, citizenship, marital status; number of siblings, relatives in home; language spoken in home; economic status; other information; church affiliation; home duties
4. *School Achievement and Curricular Experiences*: Grades; reading record; deficiencies; record by subjects; achievement test results; special interests; units in social studies; study habits; citizenship growth; other information
5. *Test Scores*: Intelligence; achievement; aptitudes; personality; other tests as given
6. *Health Information*: Diseases; vaccination and immunization data; doctor's and nurse's examination and recommendations; operations; physical disabilities; mental health; adjustments in educational program; height and weight record; other information
7. *Special Interest Data*: Hobbies; educational plans; vocational interests; co-curricular activities; work experience; other special interests
8. *Supplementary Material*: Anecdotal records; case studies; counsellor's or psychologist's notes; follow-up data; juvenile court records; teacher's comments; extra-curricular experiences

EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT

Current Problems

The problems reported by directors as having arisen in connection with the evaluation program may be classified as those related to (1) selection of instruments, (2) interpretation of data and (3) administration of the program.

1. Problems arising in connection with the selection of evaluative devices are:
 - a) Guiding teachers in the selection of appropriate instruments for different purposes
 - b) Finding tests to evaluate educational outcomes other than facts and knowledge
 - c) Evaluating the effectiveness of instruments after selection
 - d) Guiding teachers in the use of sound criteria for selection of instruments
 - e) Finding time for teachers to study critically instruments being considered for use
 - f) Selecting tests which fit the curriculum
 - g) Securing tests which are not dependent upon reading ability
2. Problems arising in connection with the interpretation and use of data secured through the use of evaluative devices are:
 - a) Minimizing the emphasis upon outcomes measured by achievement tests and increased emphasis upon more intangible outcomes that must be appraised by their evaluative devices
 - b) Persuading secondary schools to use results of elementary testing programs
 - c) Finding time for counseling on basis of data
 - d) Using the diagnostic sections of tests
 - e) Encouraging teachers to use data in daily teaching
 - f) Interpreting the scores of various tests
 - g) Interpreting data to pupils and parents
 - h) Using data in curriculum improvement
 - i) Using data to guide the selection of instructional materials
 - j) Using simple statistical terms and techniques in the interpretation of data
 - k) Interpreting data in terms of the developmental levels of children
 - l) Encouraging teachers and principals (especially in high schools) to use cumulative records
 - m) Using sound educational values in the interpretation of data as well as statistical analysis

3. Problems arising in connection with the organization and administration of the program are:
 - a) Arranging records so that all teachers may use them without loss of time
 - b) Securing efficient help for correcting and recording data
 - c) Providing for the testing of pupils where there is a heavy turn-over of the school population
 - d) Arranging a program that is well coordinated throughout the system
 - e) Securing an adequate staff to assist in the program
 - f) Constructing informal tests and devices to meet local needs
 - g) Making follow-up studies to determine effectiveness of programs
 - h) Fitting the program to the wide range of needs and abilities, especially in bilingual neighborhoods
 - i) Organizing the program to serve the actual needs and problems of teachers and children
 - j) Improving the utilization of cumulative records
 - k) Securing adequate financial support for a complete program.

Summary

Programs of evaluation vary considerably in city school systems throughout the country. The direction of the programs is most frequently placed in the hands of a school psychologist, yet 85 per cent of the systems use other titles for the person in charge. One-fifth of the school systems provide handbooks for teachers which vary greatly in size and design. A variety of appraisal devices are used with tests holding a dominant place in all systems; mental, reading and general achievement tests are most frequently employed. Cumulative records vary from simple cards to record grades received by the pupils to elaborate folders designed to record data related to the total development of the children; 80 per cent of the school systems provide them. The most critical current problems are related to the selection of instruments, interpretation of data, and administration of the program of evaluation.

The greatest need for improvement lies in the area of evaluating growth in democratic behavior. Inadequate appraisal is being made of such important factors as critical thinking, social adjustment, group processes, social attitudes and social understandings. Instruments designed to measure social learnings

are rarely used except as various achievement tests contain sections on the social studies. An increased use of informal evaluative devices and the development of more effective instruments to measure changes in the foregoing factors should bring about considerable improvement in existing programs of evaluation.

THE PREDICTIVE EFFICIENCY OF THE 1946 REVISION OF THE IOWA LEGAL APTITUDE TEST

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THE experimental edition of the *Iowa Legal Aptitude Test* and preliminary validation data were described in earlier articles in this journal (1, 2). Due to the fact that the United States was then at war and law school enrollments had dwindled to a very low figure, it was impossible to present anything like adequate validity data or to prepare useful norms. The present article is concerned with the 1946 revision of the *Iowa Legal Aptitude Test*, particularly its effectiveness in prediction at several law schools.

The following changes were made in the experimental edition to produce the 1946 revision:

Part 1, *Analogies*, was reduced from 75 to 40 items and the time decreased from 45 to 20 minutes.

Part 2, *Reasoning*, (formerly part 7) was left in its original form except for editing of some items.

Part 3, *Opposites*, was reduced from 80 to 40 items and the time decreased from 35 to 20 minutes.

Part 4, *Relevancy*, (formerly part 5) was reduced from 50 to 40 items and the time decreased from 45 to 30 minutes.

Part 5, *Mixed Relations*, (formerly part 2) was reduced from 80 to 40 items and the time decreased from 35 to 20 minutes.

Part 6, *Memory*, (formerly part 4) was reduced from 30 to 25 items but no change was made in the time allowed.

Part 7, *Information*, (formerly part 8) was increased from 60 to 80 items but the time was left unchanged. Several of the old items were edited and some replaced in the process of revision because they were found to be too easy.

The *Reading Comprehension* section was deleted from the revision chiefly because of scoring difficulties. It was also believed that the functions measured in this part were adequately covered in other parts of the test.

The revision was completed too late in the fall of 1946 to have it administered at the beginning of the semester. As a result it was possible to administer the test at only three law schools. The students, at the time they took the test, had completed nearly one semester or one to two quarters of law school work. Four additional schools gave the test to all of

TABLE I
Performance of First Year Students in Different Colleges of Law on the 1946
Revision of the Iowa Legal Aptitude Test*

	N	M	σ	Range
College A	109	170.62	30.50	107-242
College B				
Class I	176	168.10	30.30	80-258
Class II	38	169.76	34.10	102-230
Class III	95	163.34	29.70	84-242
Class IV	40	167.00	26.60	114-225
College C	130	166.15	28.24	98-232
College D				
Class I	33	174.70	37.30	91-243
Class II	82	179.51	34.61	117-240
College E				
Group I	97	157.80	34.12	85-235
Group II	71	163.65	36.00	75-235
College F	207	178.82	31.30	100-250

* Colleges of Law at the following institutions were included: State University of Iowa, University of Washington, University of Pittsburgh, University of Colorado, Loyola University, Temple University.

their new students during the academic year 1947-48. The present norms for the test are based upon the performance of the beginning students in six of these seven schools.

The number of cases, mean and standard deviation at each school using the test, are presented in Table I. Since the differences among the schools are not extremely great, it was deemed permissible to combine the results into a single normative population.

The intercorrelations between the unweighted raw scores on the seven sub-tests comprising the total test battery and the correlations between the raw scores on each sub-test and the total raw score on the battery, based upon the performance of

176 students at School B, are presented in Table 2. The highest intercorrelations are between Analogies and Opposites, Analogies and Mixed Relations, and Opposites and Mixed Relations. These three tests, Analogies, Opposites and Mixed Relations also show the highest correlations with the total scores. The latter correlations are all spuriously high, of course, because each part score is contained in the total.

TABLE 2
Intercorrelations of the Total and Sub-Test Unweighted Raw Scores on the 1946 Revision of the Iowa Legal Aptitude Test

	N = 176						
	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7
Part 1							
Part 2	.480						
Part 3	.683	.348					
Part 4	.508	.497	.428				
Part 5	.749	.387	.767	.444			
Part 6	.347	.333	.269	.407	.346		
Part 7	.364	.360	.438	.367	.376	.188	
Total	.841	.655	.833	.663	.844	.494	.625

TABLE 3
Correlations Between Measures of First Year Law School Achievement and Scores in the 1946 Revision of the Iowa Legal Aptitude Test

College of Law	N	r	M*	s*
College B				
Class I	176	.53	168.10	30.30
Class II	38	.57	169.76	34.10
Class III	95	.43	163.34	29.70
Class IV	40	.46	167.00	26.60
College C	130	.44	166.15	28.24
College D				
Class I	33	.63	174.70	37.30
Class II	82	.49	179.51	34.61
College F	206	.52	178.82	31.30

* These statistics based on total scores in the aptitude test.

Studies of the predictive value of the test have been made at several institutions. The results are presented in Table 3. In general, these correlations are slightly lower than those which were obtained with the longer experimental edition.

A multiple correlation coefficient, using the part scores in the test as predictive indices, was computed for School B, Class I. The Wherry-Doolittle Method of computation was used and a combination of parts 2, 4 and 7 was found to give the

best prediction of the criterion, $R_{0.247} = .59$. A simple unweighted sum of parts 2, 4 and 7 correlated .60 with the criterion. The multiple regression equation is as follows:

$$Z_0 = .3108 Z_2 + .2667 Z_4 + .1712 Z_7$$

In terms of raw scores the equation is:

$$X_0 = .3347 x_2 + .4934 x_4 + .1755 x_7 + 43.23$$

After it had been found at School B (Class I) that a combination of tests 2, 4 and 7 gave the best prediction of the criterion, the correlation coefficient between the sum of the scores in parts 2, 4 and 7 and the criterion for School F was computed.

TABLE 4
Correlations Between Undergraduate Grade Point Averages and Scholastic Success in First Year Law

Law School	N	r
School B, Class I		
"Own" Students	106	.44
"Transfer" Students	70	.42
Total Group	176	.42
School C	115	.55
School F	206	.41

his coefficient was .56. At both Schools B and F, therefore, combination of parts 2, 4 and 7 gave as good a prediction of the criterion as did the total score in the test. As a result of this finding separate norms have been provided for the sum of scores in parts 2, 4 and 7. The answer sheet for the short form as well as the total test must be scored with a stencil (3). One of the more significant questions about a professional college aptitude test is whether it predicts success more efficiently than does the average of undergraduate work previously undertaken. These correlations were computed for three institutions. The results are presented in Table 4. In Schools B and F the aptitude test was somewhat more efficient as a predictive index than the undergraduate grade-point average; in School C the situation was reversed with the undergraduate grade-point average correlating more highly with the criterion than did the aptitude test.

Success in first-year Law as measured by grade-point average constituted the criterion in all of the validity studies conducted.

Information was available as to the reliability of the cri-

terion or its adequacy as a measure of success. Since the grade-point average was the only evaluation of success in the study of law which was available, it was accepted for use in this study.

One of the most interesting findings was obtained with Class III at School B. In this instance the test was given during the first few days of the semester before any of the students had withdrawn. During the course of the first semester, sixteen of the students decided for various reasons to discontinue their law course. The average raw score of these sixteen students was 125 which has a percentile equivalent of six. It is also of interest to note that very few students with scores below 130 have succeeded in making an average grade at any of the law schools using the test.

In conclusion it can probably be stated that the *Iowa Legal Aptitude Test* is a fairly good predictor of success in typical law schools. The word "typical" is used because no law colleges with stringent admissions requirements were included in the study. All required two to three years of undergraduate work for admission and many of the first-year students included in this study were college graduates. However, none required a particular score in the aptitude test as an admissions requirement. While the test is probably not a great deal better "on the average" than the undergraduate grade-point average for predicting success in law school, it should prove especially helpful in the counseling of individuals concerning whose undergraduate work there is some question. Like other scholastic aptitude tests it should provide a uniform measuring stick for the appraisal of the counselee's potentialities in a particular area of study, in this instance, Law.

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STATUS ANXIETY AND OCCUPATIONAL CHOICE

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TO DATE there has been a greater emphasis upon the determination and measurement of occupational interests than upon systematic considerations and studies dealing with the genesis of such interest patterns. While the exigency of matching men and jobs has rendered the former preoccupation of basic importance, the new trends in occupational counseling, viewing as they do effective counseling to be a process imbedded in a broader context of personal and social counseling, necessitate not only the determination of interests but also an understanding of the dynamics of interests and their significance in the case of a particular client. A full appreciation of the motivating factors leading to the development of a given interest profile would doubtless require the specification of innumerable aspects of the life history of the individual. Subtle and basic personality characteristics, models which served as identification figures, casual and persistent experiences which satisfied achievement and other needs, or frustrated them, would be among the many factors to be found significant. Carter (1) has studied some of the developmental aspects of the problem, while Bordin (2) has emphasized the individual's stereotyping of himself and of occupations as a dynamic basis of occupational interests. But in addition to these personal and idiosyncratic determiners, and underlying the stereotyping processes emphasized by Bordin, social and cultural pressures are of significance. Some aspects of these shall be considered in the present paper.

The necessity for the widespread vocational services, both public and private, attests to the basic significance of job adjustment for the social and personal welfare of the individual in our society. The increased utilization and expansion of such services reflects not only the growing awareness of the value

of such guidance and counseling but also the increasing concern with occupational achievement. That is to say, there appears to be in our present-day society increasing ego-involvement with respect to occupations for a larger proportion of our population than has been true previously. The fact that such large numbers of individuals—for example, the veterans—would postpone the gratification of their present biological and social needs to seek extensive and time-consuming vocational and educational training in order to achieve more highly valued occupational goals, would indicate that this represents a significant social trend. An important, although perhaps partial, explanation of this development can be derived if the functional significance of occupational achievement is related to some characteristics of our society.

✓ The analyses and theories of such contemporary anthropologists and sociologists as Dollard (3), Linton (4), and Warner (5) have indicated that our culture is stratified in terms of classes and, with respect to some members of our population, stratified with respect to caste as well. Despite the pious democratic aspirations of our culture, their research, as well as that of many other investigators, has shown that definite statuses and roles are conferred upon individuals in part by virtue of their class membership. They have also shown that there is a certain degree of mobility present in our class structure, so that some individuals find it possible, and others necessary, to move from one class to another. It is clear that occupations would be of considerable significance in the establishment of class membership as a consequence of some intrinsic characteristics of certain occupations such as type and extent of power and influence, nature of associates and affiliations, etc. The status-conferring aspect of occupations is not exclusively dependent upon the income level inasmuch as our hierarchical class structure is only partially related to economic factors. Centers (6) has shown that common attitudes and beliefs are more significant criteria for class identification than purely economic factors. In terms, therefore, of the relationships between given occupations and their common class status, certain attitudinal and belief requirements may be expected to be associated with the various occupations. It would not even be rash to assume

that many of the emotional and personality requirements of various occupations are fundamentally based on class status factors and not on job requirements, as such. Thus, the professional is expected to appear, behave, feel and think quite differently than the skilled worker, and even more differently than the semi-skilled worker or unskilled worker. The stereotyped hierarchical classification of vocations is essentially a reflection of their class-conferring characters.

In a relatively mobile class society in which the vocations have class-conferring potency, it is obvious that ego-involvement with respect to occupational achievement would be high for many. Occupations must be selected, consciously or otherwise, in terms of their value in either maintaining the present class membership, if that is adequate to the individual's level of class aspiration, or in terms of their value in facilitating the individual's climb to the class considered higher, if he is motivated to do so. The problems connected with maintaining class status or of climbing higher have been seen by Davis (7) to engender what he refers to as "socialized anxiety" and is essentially what we are referring to as status anxiety. This anxiety is seen by Davis to account for a substantial source of motivation leading to the establishment of life goals, the postponement of gratification of social and biological needs to achieve the valued goals, the very preoccupation with achievement, and many other aspects of socialized behavior observed in our culture.

Perhaps it might be well to illustrate briefly the operation of such anxiety with a specific case.

The client, a veteran 22 years of age, of high average intelligence, with superior mechanical aptitude, decides upon discharge from service to enter college. Prior to enlistment he had no clearly formulated vocational goals and evidenced little academic interest throughout his school career. In the service as an enlisted man, he began to recognize that to "amount to something, you had to have a college education." His father, a carpenter, had occasionally mentioned his regretting having left school after the completion of the eighth grade. The father suffered from the contrast with a college-trained brother-in-law who became a successful manufacturer, and on whom he was financially dependent during the depression years. The mother, the client felt, was never satisfied with the family's

socio-economic situation. The client, too, felt that during adolescence his own family "did not amount to much." He admired his successful uncle and could not understand why his father, after so many years of work, was not in a position to own a comfortable home and to purchase a new car. He felt, moreover, that the family's social circle was limited and not nearly as respectable as that of his uncle. During the first counseling sessions the client expressed concern about his aptitude for college work and having the "personality" for professional work. Yet, he felt that if he did not complete his college education, he would probably have to become a "ditch-digger."

The counseling included, in part, a growing awareness on the part of the client of his status anxiety as a source of motivation for his college training and occupational goals. This insight, along with others no doubt, in this particular case, was accompanied by an increased acceptance of the possibility of not completing college and adjusting himself vocationally on a non-professional level, that is to say a level having lower class status. To be sure the same case could be rationalized on other levels in terms of mother identification, hostility toward the father, and perhaps in terms of other dynamic formulations. Regardless of the level of interpretation, however, the status factors will need to be considered. The hostility towards the father functioned in a context of status anxiety. We need not at this stage of theorizing concern ourselves with the issue of establishing the precise casual sequence; that is, did the status anxiety substantially contribute to the father-directed hostility or was it, in turn, generated by the attitudes toward and the relationship with the father? Such problems concerning the interrelationships of intra-family attitudes and feelings and similarities or dissimilarities in status aspirations need to be clarified by further research.

To appreciate the role of status anxiety in the life adjustment of the individual in our society we need to specify in greater detail its operation and consequences, not only with respect to occupational choice but to the conflicts and adjustments issuing from occupational choice as well. We might view the individual's achievement of his occupational goals as a process preceded by the overcoming of many and, in some cases at least, difficult barriers. Such barriers may stem from intrapersonal characteristics: aptitudes, personality, physical and physio-

logical factors, etc. Additionally, there may be imposed social and cultural barriers as well. Admission to colleges, fulfilling the requirements, securing the grades, entrance to the crowded professional schools, internship training programs, passing the state examinations or being licensed and certified in some other manner, getting the appointment, or establishing a private practice, are merely some of these many barriers. The mere enumeration of these hardly depicts the actual stress and tension engendered in the individual confronted with the painful process of overcoming the many obstacles. (Consider further the additional barriers confronting a member of a racial, national or religious minority.)

The process of overcoming the many barriers alone are enough to eventuate in tension, fear and anxiety in some individuals, and at least in some degree of apprehension, self-doubt, and feelings of inadequacy in others. Moreover, when the major determiner of occupational choice is status anxiety, as well it may be in the case of many people, other sources of conflict can be conceived. Occupational goals may be selected which are uncongenial to basic interests, fundamental aptitudes, and even the essential personality structure. A boy with high mechanical interests and aptitude, and limited college aptitude, insists on becoming an engineer. A girl ideally suited for clerical work insists on entering the field of interior decorating. Every counselor can unquestionably compile his own list of examples. All too often, however, the basis for the discrepancy is explained away as a result of misinformation, immaturity, or misguidance by the parent. These may all be factors but they become effective in such cases precisely because the individual is susceptible to selecting inappropriate objectives by virtue of his status anxiety. Were he not motivated by his quest for social-class status he would be less apt to be talked into a choice uncongenial to his basic characteristics. And perhaps even the misinformation that may exist is of a motivated variety.

The conflicts and maladjustments may persist even beyond the preparatory occupational period and remain with the individual during the course of his work history leading to frequent job changes, poor work morale and job dissatisfaction.

They may persist as a consequence of shifts in the individual's status aspirations. Having achieved a previously established class-status goal, he may feel that he must not rest on his laurels; he must show that he is still ambitious. Encouraged by his success, he sets as his goal the next rung in the status hierarchy and once more becomes involved in the battle. He may be stimulated, urged or even compelled to do so by members of the family, e.g., a social-climbing wife, if not by his own achievement needs. The status-conferring potency of the occupation may change. A position which might once have been a guaranteed ticket to middle-class respectability no longer yields such high returns. The position of the pharmacist in the apothecary becomes largely retail clerking in the urban department drug store and may in the process have declined in status-value. The individual is confronted with the choice of reconciling himself with lesser status or changing his vocation. Social and cultural exigencies such as a war may thrust individuals into positions of unusually high status, only to have to suffer with the return of pre-war conditions the let-down of returning to the lower-status positions previously held. The prevalence of the latter in recent years has been painfully obvious to many. Yet even in this instance, the status aspect has not been recognized nearly as much as the shifts in income, in power and authority, and in other more tangible aspects.

As a consequence of the painful strivings to achieve or perpetuate status by means of occupational choice and achievement, the anxiety generated in the process may be conceived to have widespread effects on the personality structure of those who are especially vulnerable. When the status anxiety and the conflicts and adjustments stemming from it are added to the more idiosyncratic conflicts and adjustments, neurotic solutions may readily result. It is for this reason that it is often difficult for the occupational counselor to diagnose the extent of the maladjustment and determine the type of therapy that is actually needed by the client. Similarly, it is not inconceivable that some patients of the psychotherapist could find substantial relief more readily by working through and resolving occupational problems than conflicts and adjustments in other areas.

It is not to be inferred that status anxiety need be considered universal even in our society. Some individuals, to avoid strivings, conflicts, and anxiety, may lower their class-aspiration level. The college professor's son may repress his status anxiety, renunciate his family's class and settle for a worker's status. (To some extent this is often encouraged, providing the individual will continue along the road of regaining class status on his own, rather than resting on the class laurels of his family. The son of the corporation's president may start at the bottom and work his way up, presumably proving to himself and others that he was able to achieve his own status.) Many in the so-called lower classes do not appear to be afflicted, or even motivated by status anxiety. Teachers will attest, although not always understand, that many pupils of lower class status seem to lack any genuine motivation to learn, to accomplish, to "make somebody of themselves." The very fact that their status is so low has resulted either in their positive acceptance of their lot, or in negatively giving up all hope of being able to achieve higher status. Frequently their own socio-cultural environment provides no stimulation for the development of higher-class aspirations. Status anxiety may also be absent in the small group at the very top of our class structure. These individuals by virtue of their family's heritage are so secure in their class status that no anxiety on this score need develop. In this group, one frequently finds the proverbial playboy. Having no status anxiety, a strong motivational basis for achievement simply does not develop; the individual confidently expects to maintain his high-status level by having chosen the proper family in which to be born. Yet, the absence of status anxiety in any class is often considered, per se, as a pathognomic sign of maladjustment. While in some it may reflect disturbance of the personality, in others it need be little more than the consequence of their social and class milieu. The diagnostic sign of the client's utilization of his capacities must consequently be evaluated in terms of the factor of status anxiety. Having restricted achievement needs and low motivation educationally and vocationally may have quite different diagnostic implications in different social classes.

Implications for the counseling process

The recognition of status anxiety as a potential determinant of occupational choice should lead to a fuller understanding and appreciation of the ego-involvement with occupational achievement so widespread in our culture. It will clarify in part the painful strivings of some clients, the indecision of others, and the difficulty evidenced in some cases to arrive at an occupational choice commensurate with and appropriate to their basic personal characteristics. Beyond this, however, it may even have some implications for the methodological problems of the counseling process as such. The recognition of status anxiety as one of the primary motivational factors in the case of many clients would argue for more penetrating counseling techniques than are now usually employed. Tomkins (8), in describing the applicability of the *Thematic Apperception Test* in vocational guidance asserts, "Assessment of an individual's needs in the work region differs in no essential manner from any other variety of personality diagnosis. It is as simple or as complex as a determination of the conditions of a neurosis and of no less urgent import to the individual." The facts of status anxiety and other personality needs as they bear on the occupation choice dilemma for the client require, in the case of some clients at least, depth approaches in vocational counseling rather than the superficial approaches which concentrate on the determination of fragmentary and specific skills and aptitudes and the routine imparting of occupational information. Such preoccupations are often quite meaningless to the client and are trusted even less because they do not relate the vocational problem to his basic needs which he, if not the counselor, senses, albeit dimly. It is only when the basic motivations such as status anxiety and intra-personal needs are structured and clarified that the client can utilize meaningfully the psychometric results and occupational information.

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THE MEANING OF "VALIDITY" AND "RELIABILITY" AS APPLIED TO SOCIOMETRIC TESTS¹

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It is the purpose of this paper to attempt a clarification of the meaning of the terms "validity" and "reliability," as they may be applied appropriately in an evaluation of sociometric tests. These instruments are being employed increasingly in educational and psychological research, having been in wide use by sociologists for a number of years. It is their intention to focus on an analysis of the individual as a member of a group, rather than on the individual as an entity in isolation.

It seems pertinent, in view of the unique possibilities which sociometry affords through its use as a tool of psychological research, to try to define as clearly as possible its nature in relation to the methods more familiar to psychological workers. A psychometric orientation to the use of paper-and-pencil tests implies a frame of reference in their evaluation which is not immediately applicable to sociometry.

The Concept of "Validity"

An operational definition of a psychological test would involve a statement to the effect that it is one in which an individual responds to a number of items, these responses being taken to be indirect evidence of the possession by that individual of certain characteristics to a certain degree. A sociometric test, on the other hand, requires the selection by each individual in a specified group of one or more other individuals in that group on the basis of stipulated criteria of choice. Expressed simply, in the former case, the individual "reports on" himself; in the latter, he "reports on" and is "reported on" by others.

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In the first instance, interpretation of an individual's quantitative score usually is made by reference to established norms. In the second, the individual's "score" is the number of choices he receives from other members of the group, or the number he gives to them, and interpretation is limited to a statement of his "status" (in the case of choices given) in terms of that choice number only and for that group only. As Jennings (3, p. 27) has said of the sociometric test, "it does not attempt to measure behavior of a certain type by eliciting *related* responses, but employs a sample of the actual behavior studied" (*italics mine*). In other words, choice behavior is being studied, and choice behavior is what is elicited by the test.

Information concerning underlying motives or traits is not furnished by the application of sociometry alone. Although inferences about motives and traits may be plausibly suggested by sociometric data, these are hypotheses to be tested by other means. A word of caution, both to sociometrists and psychometrists, refers to generalization from sociometric data, i.e., from *one* kind of *choice* behavior, to a broad inference about individual personal or social *adjustment*. Unless social adjustment is carefully and narrowly defined in terms of the particular behavior sampled, or unless the diagnosis of "adjustment" is supported by other congruent data, such statements are unwarranted. One example of such loose interpretation has been cited elsewhere (5) in criticizing a study by Zeleny (10) in which he uses such words as "happy," "pleasant," and "frustration" in a discussion of an individual's sociometric test scores. These feeling-states can only be indirectly inferred from his sociometric data and must be validated against other criteria. It would be just as questionable to imply that an "extrovert," psychometrically tested, is a "leader" in his group, without supporting data on his actual choice relationships in the group. The sociometric tool is only one method, then, to be used most fruitfully in conjunction with others, as a supplement to, rather than as a substitute for, psychological tests.

This brings us to the question of how the concept of "validity" may be applied to sociometric instruments. Since, as stated above, these do not record behavior assumed to be indirectly, and to some degree, indicative of the possession of

certain attributes, but afford instead a direct sample of the behavior under study, reference to an "outside" criterion has no meaning in the usual sense.

But, as Jennings has also noted, it does have a particular relevance: "It may be considered, however, whether a sociometric test is valid in the sense that the behavior which it was intended to elicit actually appeared without falsification on the part of the subjects" (3, p. 27). The solution to this problem might be given by an evaluation of the rapport of the experimenter with the subjects, by observation of group behavior in situations illustrating the choice criteria presented, and by evidence from other case data of the individual's acceptance or rejection by the group. Quantification of such material might be achieved through analyses of independent ratings by trained observers or judges.

In this connection the contention of Moreno and others may be pointed out that the test should be "a motive, an incentive, a purpose, primarily for the subject, instead of for the tester" (7, pp. 14, 15). The implication is that the relationships tested are most honestly revealed when the results of the testing will "make a difference" to the subjects "when the results of the test are or can be put into immediate operation" (2, p. 77).

To summarize briefly, validity—"the extent to which a test measures that which it purports to measure"—is intrinsic to sociometric data, since test results are choice behavior, and the test purports to measure that choice behavior. But generalization beyond the specific behavior sampled does necessitate reference to outside criteria or supportive data. In order to meet the remaining questions of whether subjects' stated choices may be accepted as "valid" in the sense that they are subjectively honest, this testing situation, like those in psychometric testing, should be set up in such ways as to maximize the rapport with the experimenter and the motivation for the subjects. The hypothesis has been cited that motivation of subjects in sociometric testing increases as the criteria of choice have meaning to the subjects and as this meaning includes the knowledge that changes will be made in the group structure on the basis of the choices which they express as individuals.

The Concept of "Reliability"

In attempting to derive a clearer concept of "reliability" as it may properly be applied to sociometric tests, it may be helpful, first, to pursue further our comparison of psychometric and sociometric instruments. The earlier discussion emphasized the difference between an approach which measures (a) behavior somehow and to some degree related to certain aptitudes, interests, abilities, or traits, and (b) behavior directly representative of the behavior pattern under study. It now seems pertinent to try to delineate some characteristics of these tests which have a close relationship to the methods by which we may obtain measures of their relative "reliability" and to the interpretations which may be given to such measures.

One of these factors is that of the stability of the behavior being measured. We may consider, for example, the relatively greater stability of the behavior which an "intelligence" test attempts to measure indirectly, over that which a sociometric test attempts to measure directly. The "constancy of the IQ" would seem to be a much more tenable hypothesis than the "constancy of choice of classroom seatmates"! There seems to be considerable evidence to support the hypothesis that the more a kind of behavior becomes involved by definition in social experiences, and the more complex is its relationship to "innately" determined attributes, the greater the apparent fluctuations that may be expected. Hence, such fluctuations over an extended period of time might legitimately be expected in sociometric data, these variations quite possibly reflecting actual changes in behavior, rather than low reliability of the instruments themselves.

We are led next to the closer analogy of the problems involved in the measurement of the reliability of psychometric "personality" tests. It is not surprising that "coefficients of reliability" of standardized personality tests have generally been much lower than those of "intelligence" tests. And the theory has been advanced that a concept of "clinical reliability" may be plausible in which it is held that fluctuations occurring in measured behavior may be entirely consistent with those found in clinically defined syndromes (6, pp. 161-162). In such an

instance it would be conceivable that a coefficient of reliability might actually be too high, to the extent that the test-item responses implied greater rigidity than that present in the actual behavior.

It should also be noted that, unlike responses to paper-and-pencil tests either of "intelligence" or "personality," sociometric tests do not consist of an individual's report on himself on N items, but consist, rather, of his reporting on $N-1$ other persons, or of $N-1$ other persons' reporting on him, on each item, or criterion, of choice. This statement suggests a similarity between the method of sociometry and that of the rating scale.

Among the instruments most familiar to the psychologist, it may seem, then, that the rating scale is most nearly analagous to the sociometric test. But there are still important basic distinctions. Most obvious are the differences that sociometric "ratings" are made by the individual's peers, who are not "qualified judges" in the usual sense, and that "ratings" are made by $N-1$ "judges," and not by one, two, or three "experts," as is the common practice.

For purposes of comparison, let us employ as examples of materials or situations to which rating scales are often applied (a) job performance, (b) controlled problem situations, and (c) case data. In all three instances the attempt is made to control experimentally the choice or rating criteria *and* the behavior material rated, i.e., performance on a specific job, observation of reaction to a specific problem situation, specific types of case data, while the judges vary in their ratings. With sociometry, however, *only* the criterion of choice is held constant, while the behavior material (i.e., the interpersonal relationship), on the basis of which a rating or choice is given, varies with each judge, and the judges are expected to vary in their ratings.

A further distinction between the rating scale and the sociometric test should be stressed. In the former case raters usually are asked to make judgments about the degree to which subjects possess certain traits or personality characteristics underlying or related to their behavior in the observed situations. In the latter, subjects are asked only to make choices of individuals, to state preferences for them with reference to a

specified criterion (or criteria) of choice. It is the goal of the experimenter who employs a rating scale to obtain close agreement among judges, while the goal of the experimenter who uses a sociometric test is to obtain a reflection of the actual choice behavior of individual group members, in which consensus may, or may not, be present.

If we take all of these unique aspects of sociometry into account in selecting a measure which will give a meaningful indication of the reliability of a particular test, we begin to understand that a simple transfer of method and interpretation is not appropriate. This is not to imply, of course, that the problem of computing and evaluating "reliability" measures of psychometric tests is assumed to have been satisfactorily solved. Although an analysis of this situation is outside the immediate province of the present discussion, it does seem in order, to stress the fact that real confusion and ambiguity do exist with respect to the too often uncritically accepted "reliability coefficient." Such investigators as Loevinger and Goodenough have treated this problem elsewhere (1, 4).

When the "reliability" of sociometric tests has been reported in research, it has been on the basis of a "test-retest" correlation. But the nature of the groups and situations in which sociometry is employed makes this method seem often of dubious value. For example, the purpose of some studies is to determine the extent of "cleavage" or of "cohesiveness" in groups that have been associated for a period of several months. If this testing were to be undertaken in classroom groups of some schools, it would have to be done at or near the close of a school term, the longest period for which group membership remains unchanged. Retesting, if it were to involve the same groups, could not follow in an interval of more than a few weeks, which time lapse would not be sufficient to eliminate the very probable large influence of the memory factor in the second administration. If, on the other hand, it is possible to readminister the tests after a lapse of, say, six months or more, the previously stated question of the stability of the behavior measured arises to complicate the interpretation of the obtained coefficient of correlation. The coefficient might be expected to vary for different age levels and for different groups, so that a low correla-

tion might not be a function of the instrument, but of the instability of the relationships on the basis of which choices are made, or of the particular group structure. The correlation would seem to reflect, rather, the degree of change in choice behavior in a particular group after a specified lapse of time. As was mentioned earlier, obtaining a "high" test-retest correlation may not, on the other hand, be a "desirable" result, since this may be an indication that the test is not accurately reflecting the shifts in the dynamics of group relations which have actually taken place.

The test-retest correlations reported in published studies do, in spite of the stated conditions which might lead one to expect other results, tend to be high. Several studies, all of which had lapses of only one to four days between the first and the second testing, obtained correlations varying from .93 to .96 (8, p. 35, 9, p. 804, 3, p. 31). The memory factor may well be a very "reliable" trait itself, when measured over such a short period!

When Jennings computed test-retest correlations of "choices for the subject" and "rejections for the subject" at intervals eight months apart, she found lower correlations of .65 and .66, which would indicate, she says, "some agreement (some consensus) from one time to a later time" (3, p. 57).

The conclusion to which we come is not that some kind of test-retest measure would not be useful and meaningful, but that its purpose and interpretation should be carefully defined and understood. The statistical techniques employed should, moreover, be selected or devised to answer the needs of a particular experimental design and of particular sociometric data. Such factors as the number of criteria involved in choices, the number of choices which an individual is permitted to make, the number and kinds of test-retest situations involved, and the type of sociometric approach used, all should be taken into account in setting up methodology for analyzing the stability of the choice behavior measured in a certain study. These and other qualifying conditions make inappropriate any rule of thumb technique for universal application.

But there are important questions to be answered, questions which do lend themselves to statistical analysis. They have

to do with determining the stability, or "consistency," or "reliability," of choice behavior itself over varying intervals of time for different age and grade levels and for different group structures. We might ask (1) whether the status (choices received) of individual members of a group varies significantly over a specified lapse of time; (2) whether the expansiveness (choices given) of individual members of a group varies significantly over a certain period of time; (3) whether in these instances status is more stable than expansiveness; (4) whether choice behavior increases in stability with age; (5) whether choice behavior based on any one criterion may be more stable than that based on another; (6) whether the introduction of certain planned leadership techniques or group procedures may induce changes in choice behavior. If we accept sociometry as a direct measure of the behavior under study, then the relevant problem of "reliability" is one of determining the stability of that behavior, rather than that of investigating the reliability of the test. With this kind of instrument it is not possible to speak of test reliability independent of the influence of the stability of the choice behavior itself.

We have spoken of "test-retest" reliability in the context of sociometric analysis. Suppose that we are interested in the problem of "internal consistency" of a sociometric test. Does this concept have meaning for sociometry and, if so, what would be an appropriate interpretation? Conventionally, a "split-half reliability coefficient" has been used to estimate the "internal consistency" of psychological tests, an acknowledgment not intended to bely the confusion really implicit in the use and calculation of such a coefficient. As Loevinger has commented, "there are as many split-half correlation coefficients as there are ways of dividing the test in two" (4, p. 6). One of the assumptions underlying these coefficients is that halves of the test correlated are "equivalent," or "random," halves. And a legitimate question has been raised as to the justification one may have for assuming that the halves constitute "equivalent" samples of responses to the test as a whole or "equally good" measures of the criterion.

If the attempt is made to transplant this sort of technique to an analysis of sociometric instruments, one of the difficulties

faced at once is that of deciding how it may logically be held that choices given or received by an arbitrarily selected half of a group are "equivalent" to those given or received by the other half. In what way could "random" halves of choices be taken to be equally representative samples of a specific kind of choice behavior of individuals in a specific group? Even if this assumption is somehow met (and no really satisfactory means of doing so seems to have been suggested), the possibility of ambiguity remains in interpretation of a coefficient computed on this basis from sociometric data. If the coefficient of correlation is low, is the test lacking in internal consistency, or does the individual really play an inconsistent role in the group? If it is high, does the test possess a high degree of internal consistency, or does the individual play a consistent role in the group? The latter interpretations might lead to valuable inferences about the behavior of members in a group, but direct judgments about test reliability could not be made from this type of analysis.

Again, it seems that a more fruitful approach would be made through a precise definition of "consistency" appropriate to a particular instrument and the purposes of a particular study. If several, or more, groups are involved in an investigation, it might be pertinent to ask whether within-group choices are homogeneous. If a study is concerned with the problem of within-group cleavage (e.g., preference for own group members of Negroes and whites, or Jews and Gentiles), it might be important to know whether choices are given with significantly greater frequency to members of the own sub-group than to other members of the whole group. The techniques employed must be selected to meet the needs of a specific problem and to implement the careful use of a specific sociometric instrument.

A clear description and delimitation of the application and procedure in carrying out a particular design are to be preferred to the loose borrowing of method and terminology from an allied, but different, field. This caution seems especially relevant, in view of the confusion already existing about the measurement of reliability of psychological tests. One writer previously cited has said, "The statistical formulas utilizing

reliability coefficients are based on assumptions at best so inaccessible, at worst so contrary to clinical experience, that the attempt to find a substitute for the notion of reliability, based on assumptions closer to the real situation in testing, appears well justified" (4, p. 10).

Conclusions

It was pointed out in discussing the problem of "validity" that sociometric test data are themselves the behavior which is studied. Choice responses are not "right" or "wrong" answers to test questions, in terms of reference to any key or to an outside criterion. If this is so, then variation of choice behavior from one test to another, or variation of the behavior within a group at a stated time, is not to be referred to as a function of "test reliability," but of the relative stability of the behavior itself. It follows, then, that the empirical presence of this kind of reliability, or the lack of it, to some degree, permits no value judgment about the "goodness" of the test. There are significant questions to be asked and answered about the relationships of choice behavior explicit in responses to sociometric instruments, about choice behavior in other than testing situations, about the consistency of this "tested" behavior within a group, and about its stability over different periods of time. But these questions may be asked and answered with more understanding if they are put in terms appropriate to the test and to the situation. The concepts of "reliability" and "validity" as traditionally used—and misused—by psychologists, seem to have little direct meaning or application to the field of sociometry. The systematic development of new concepts, in a new frame of reference, is indicated, a development in which rigorous statistical method is matched by rigorous theoretical definition.

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EFFECT OF SPEED ON ITEM-TEST CORRELATION COEFFICIENTS

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THE practice of doing item analyses with items which have been taken under speed conditions has not been entirely abandoned. Although most careful psychometricians have cautioned against this procedure, several instances have come to the writer's attention recently in which the warnings have been unread or ignored. The reason, perhaps, may be that empirical demonstrations have not been sufficiently publicized to bring the principles to the attention of all of us who should be aware of them. Since the principles can to a large extent be theoretically derived, we have tended to rely on theoretical discussions rather than on the presentation of experimental data. The present paper is intended to offer a discussion of theory and some supporting data.

In the construction of objective tests, one sometimes deliberately injects a factor of speed because of the conviction that speed is an important component of the ability to be measured. More frequently, this is *not* the reason. In most group tests, especially those designed for selection purposes, the speed factor represents a compromise for the sake of administrative efficiency. If it were feasible, untimed power tests would be used in the practical situation; since it is rarely expedient to use untimed tests, time limits are set which are often quite short. In setting these limits, it is assumed that there is considerable correlation between scores on the speeded test and the scores which would result if the test were given under power conditions. This assumption has sometimes been shown to have considerable validity; usually, the assumption is not even investigated.

A decision as to whether speed is an important component of the trait being measured, ~~not whether it is a practical ex~~

pedient, should be made before test construction is begun. If speed is an essential component, then the criterion used in selecting items should take account of speed. If speed is recognized as an expedient, the criterion should be one which takes into account only power aspects of the ability. In this study the decision was made in advance that measurement of power was the real goal, and that speed was not to be regarded as an essential component. On this basis, the criterion score with which items were to be correlated was a power-test score—one obtained without time limits. It should be noted that a good outside criterion would have been preferred, had it been available. But, as is true of the construction of many tests, it was impractical to obtain such an outside measure and the best available internal criterion was selected.

This study was aimed at investigating the extent to which difficulty values and item-test coefficients obtained under power-test conditions would have changed if the tests had been given under speed conditions. Two experimental forms (A and B) of a general intelligence test were prepared, each containing 138 items. The four types of items in each form were presented in cycle-omnibus fashion in the following order: (1) Analogy, (2) Analogy, (3) Synonym, (4) Classification, (5) Arithmetic computation, (6) Analogy, (7) Analogy, (8) Synonym, (9) Classification, (10) Arithmetic computation, etc. The items were arranged within each item form according to the guessed level of difficulty; how successful this guessed order was may be seen by inspecting the difficulty values in Table 1.

The tests were administered to a group of applicants to schools of nursing.¹ One hundred and twenty of these women took Form A and one hundred and twelve took Form B of the test. Their instructions were to work as rapidly as possible and to mark, at successive five-minute signals, the item on which they were working. All applicants were permitted to finish the test; the shortest time taken was between 15 and 20 minutes, the longest time between 30 and 35 minutes. The number of the item each applicant had reached at the end of

¹ The author is indebted to Edith M. Potts, Director, Nurse Testing Division, The Psychological Corporation, for these subjects.

each five-minute interval was recorded on her test sheet by the scorers.

For purposes of constructing the desired test, item-test correlations against the total score on the test were computed. For purposes of the investigation herein reported, however, a different set of data was gathered. The author arbitrarily hypothesized two tests, each consisting of the first eighty items of the longer experimental forms. He further hypothesized that these eighty-item tests had been given with a ten-minute time limit. He was then able to score each test in terms of the number of items (out of the first eighty) correctly answered in the first ten minutes.

An item analysis performed on this eighty-item, ten-minute test would indicate the results which might be expected if a speed test of the kind hypothesized had actually been administered. Such an analysis was made, using the upper 27 per cent and lower 27 per cent (based on the 138 item power forms) of the applicants taking each form. The proportions of the upper and lower groups passing each item were located on the Flanagan chart devised to provide item-test coefficients for such groups. These values (Speed r_{it}) appear in Table 1 for Forms A and B.

In obtaining the proportion of applicants passing an item, the fiction of an eighty-item, ten-minute test was maintained. A subject who passed an item *after* the first ten minutes was not included in the passing group; had only ten minutes been available, she would not have reached the item, and therefore would not have passed it. In this way, the conditions of the fictional speeded test were observed.

Since, in fact, we have available the responses of all applicants to all of the eighty items, item-test coefficients can also be computed which will include all applicants who passed an item, regardless of whether it was passed before or after the expiration of ten minutes. Coefficients thus computed may be properly considered power-test coefficients. These coefficients are presented alongside the speed coefficients in Table 1.

As we inspect the item-test coefficients, we find that for the first twenty-eight items of Form A, and the first forty-one items of Form B, there is no difference under the speed vs. power

TABLE 1
Average Per Cent Passing and Item-Test Coefficients under Speed and Power Conditions

Item	Form A		Form B	
	SPEED Average* % passing r_{it}	POWER Average* % passing r_{it}	SPEED Average* % passing r_{it}	POWER Average* % passing r_{it}
1	87	.30	97	.33
2	79	.45	96	.40
3	100	.00	99	.23
4	97	.33	73	.31
5	92	.23	96	.14
6	88	.58	99	.23
7	97	.33	93	.49
8	100	.00	100	.00
9	85	.35	96	.14
10	85	.62	79	.45
11	64	.34	68	.46
12	84	.51	97	.33
13	97	.00	100	.00
14	66	.03	97	.33
15	79	.00	82	.19
16	90	.55	73	.15
17	52	.26	76	.41
18	96	.40	91	.15
19	87	.45	44	.47
20	75	.12	78	.71
21	64	.20	97	.33
22	79	.35	79	.36
23	90	.55	99	.23
24	94	.45	88	.13
25	84	.37	75	.19
26	70	.28	85	.33
27	70	.28	75	.04
28	99	.23	97	.33
29	81	.43	60	.16
30	94	.45	96	.40
31	90	.55	91	.21
32	91	.52	93	.49
33	84	.51	85	.48
34	93	.09	94	.00
35	78	.38	75	.35
36	90	.55	90	.55
37	67	.27	67	.27
38	94	.22	96	.14
39	88	.26	90	.21
40	84	.51	87	.45
41	88	.58	91	.52
42	81	.23	84	.15
43	90	.38	93	.29
44	91	.52	96	.40
45	82	.10	84	.05
46	88	.43	94	.23
47	88	.58	91	.52
48	78	.71	79	.70
49	91	.52	100	.00
50	84	.51	91	.34
51	76	.41	88	.13
52	58	.26	63	.16
53	71	.57	82	.40
54	62	.37	73	.15
55	65	.65	84	.37
			65	.65

Same as
under
speed
condi-
tions.

Same as under speed
conditions.

* These are obtained by averaging the per cents passing in the upper and lower criterion groups.

TABLE 1—Continued

Item	Form A				Form B			
	SPEED Average* % passing	% <i>r</i> ₁₁	POWER Average* % passing	% <i>r</i> ₁₁	SPEED Average* % passing	% <i>r</i> ₁₁	POWER Average* % passing	% <i>r</i> ₁₁
56	59	.77	84	.51	68	.79	94	.45
57	67	.72	97	.00	50	.73	64	.53
58	40	.64	58	.26	29	.49	42	.13
59	56	.76	81	.43	64	.82	94	.45
60	58	.80	88	.42	61	.78	90	.38
61	46	.84	65	.51	56	.76	82	.40
62	73	.82	50	.46	55	.89	85	.63
63	53	.80	97	.33	47	.85	70	.52
64	56	.88	93	.49	56	.88	94	.45
65	47	.75	72	.33	55	.84	90	.38
66	53	.91	93	.49	52	.87	82	.53
67	50	.84	91	.15	47	.85	72	.49
68	50	.90	79	.58	49	.87	79	.45
69	53	.22	55	.20	55	.89	96	.40
70	70	.81	67	.14	82	.86	72	.33
71	79	.84	81	.55	43	.74	72	.40
72	73	.82	81	.46	67	.80	59	.36
73	76	.83	90	.38	82	.86	79	.58
74	67	.80	85	.33	73	.82	68	.46
75	61	.78	84	.26	70	.82	93	.09
76	42	.70	47	.29	67	.80	84	.26
77	52	.74	75	.28	70	.82	97	.33
78	55	.75	96	.40	27	.61	26	.35
79	52	.74	94	.45	52	.74	88	.00
80	30	.63	44	.41	55	.75	100	.00

conditions. This reflects the fact that all applicants in both the upper and lower groups reached those items in the first ten minutes. As we proceed further into the table, differences begin to appear. These differences indicate that some applicants in the lower groups could have answered the items correctly, had they been able to *reach* those items within ten minutes. As we reach item 70 in each form, the differences in item-test coefficients under speed and power conditions are caused by the failure of applicants in the upper as well as the lower groups to reach items 70 to 80 within the prescribed time limit.

Perhaps the most dramatic aspect of the decreases in item-test *r* as we turn from speed to power conditions is their unpredictability. Knowing the coefficient under speed conditions, we can make no reasonable guess as to what the power coefficient will be. We can usually be certain that the coefficient will decrease; whether it will still be respectably large after it decreases, or whether its significance will disappear, cannot be foretold.

THE PROFESSED AND MEASURED INTERESTS OF VOCATIONAL REHABILITATION COUNSELORS¹

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THIS article is a partial report of a broad study designed to secure a better understanding of personnel engaged as vocational rehabilitation counselors for the civilian disabled. The program has been in existence since 1920 and was considerably expanded by public legislation in 1943 to serve the mentally as well as the physically disabled. The inclusive legislation of 1943 required large increases in staff. Many training institutes were conducted all over the country to assist in orienting the counselors to their work (9). Coincident with the institutes, this and other studies were conducted.

In order to make the results of this report more intelligible, a few other facts should be mentioned as background information. The work of the rehabilitation counselor is most varied and complex in this State-Federal program for the civilian disabled (3). The counselors deal continuously with the client from first referral through placement and follow-up. In between, the client receives all of the services necessary to become successfully employed at the occupational level of his highest pattern of abilities. The client always receives the services of counseling, medical examinations, and assistance in placement but he may also secure medical and psychiatric treatment, hospitalization, prosthetic appliances, specialized psychological evaluation (4), all forms of training including university education, necessary occupational tools, help in setting up small businesses, and a number of other services necessary for rehabilitation. The average case takes about nine months from referral to follow-up in remunerative employment. One of our psychological colleagues has said that rehabilitation counselors have to "live with their diagnoses."

¹ The author gratefully acknowledges the assistance given by Donald H. Dabelstein in the initial steps of the study, and by Marjorie Moore in the statistical computations.

Specific Purposes of This Study

Specifically, this report attempts to answer the following questions:

1. What is the typical profile of vocational rehabilitation counselors on the *Kuder Preference Record*?
2. How stable are the scores on the Kuder with increasing experience on the job?
3. What reasons are given for and against the use of the *Kuder Preference Record* by counselors who have used it?
4. What is the relationship between professed degree of interest in the nine vocational areas of the Kuder, and the actual scores of measured interests?
5. Does the administration of the Interest Inventory and the knowledge of scores made on it influence the individual to estimate his self-interests in the direction of the test results?

The Experimental Population

The rehabilitation counselors who comprised the experimental population number 146 and come from fourteen States including Alabama, California, Florida, Georgia, Mississippi, North Carolina, New Jersey, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, and West Virginia. This number is divided into two groups, known as Groups A and B. Group A numbered 100 counselors, and furnished the major data for many phases of the total investigation. Group B numbered 46 counselors and was introduced mainly for the purpose of determining whether the prior administration of the *Kuder Preference Record* prejudiced the degree of professed or "subjective" interests in nine general vocational areas. Group A numbered 134 at the beginning of the experiment but only 100 complete sets of data were available for analysis. This represented 75 per cent of the original group. Some incomplete data made it necessary to exclude 24 cases. The remaining 10 had been separated from service. Only male counselors were included in this study, although subsequent analysis showed that the typical interest profiles of the male and female counselors were fairly similar.

The counselors were requested to fill out a "Background In-

ventory" which furnished information about their previous education and length of experience in the work of civilian rehabilitation. The data are presented in Tables 1 and 2. It will be seen that Group A (83 of 100 responded) had an average experience of 2 years and 6½ months on the job as compared to

TABLE 1
Vocational Rehabilitation Experience and Educational Background of Counselors

Group	No.	Aver. Exper. in Rehab.	Per Cent of Group With Varying Years of Experience				Aver. College and Graduate Training
			<1 yr.	1-5	5-10	>10	
A	100	2 yrs. 6½ mo.	37%	37%	15%	11%	4.6 yrs.
B	46	1 yr. 1 mo.	50%	33%	13%	4%	4.4 yrs.

TABLE 2
Major and Minor Fields of Study Pursued by Counselors in Colleges and Graduate Schools

Group A*		Group B†	
Majors	Minors	Majors	Minors
Education 39	Education 17	Education 11	English 8
Social Studies 19	Social Studies 16	Social Studies 8	Education 6
Economics 8	English 11	English 4	Physical Sci. 5
English 7	Physical Sci. 8	History 4	Social Studies 4
Business 5	Mathematics 7	Physical Sci. 4	Mathematics 4
Physical Sci. 5	Economics 6	Business 3	History 4
Mathematics 4	Psychology 5	Economics 3	Psychology 2
Law 4	Languages 4	Mathematics 2	Agriculture 1
Psychology 4	History 4	Political Sci. 1	Law 1
Engineering 3	Political Sci. 3	Geography 1	Personnel 1
Agriculture 3	Accountancy 3	Industrial Arts 1	(Total 36)
History 2	Industrial Arts 2	(Total 42)	
Government 1	Agriculture 2		
Advertising 1	Business 2		
(Total 105)‡	Speech 1		
	Religion 1		
	Music 1		
	Voc. Guidance 1		
	(Total 94)		

* 83 out of 100 filled out the Background Inventory.

† 27 out of 46 filled out the Background Inventory.

‡ In Groups A and B, some individuals listed different majors for college and graduate schools.

1 year and 1 month for Group B (27 of 46 responded). There was also a slight superiority in terms of average college and graduate training, 4.6 years for Group A to 4.4 years for Group B.

In order to ascertain some facts about the contents of their previous education, the counselors were asked to list their

majors and minors in both college and graduate school. An over-all analysis of these majors and minors leads to the conclusion that the preponderance lie in the fields of Education and Social Studies, with subjects such as Psychology and Guidance seldom mentioned. The data on educational background are an expected reflection of the group's inadequate training in the fields of vocational counseling and rehabilitation case work. The universities and colleges of our country had not set up appropriate training courses in the past to permit the adequate directors of public civilian rehabilitation to select fully trained counselors for their agencies. The expansion of the civilian rehabilitation program had to be made, and the most suitable personnel selected as they were available. Further necessary training had to be provided on the job; this fact made give major emphasis to in-service training in many forms.

Method of the Experiment

The counselors first were contacted at the orientation institutes. There they received instruction in the basic methods of the work within the framework of the public program for the civilian disabled. During the session on Psychological Evaluation, the counselors of Group A were asked to take the *Kuder Preference Record* for the purpose of becoming acquainted with its use and interpretation. They were requested to hand in their interest profile record if they wished and were given assurance that the individual results would be kept confidential. Five months later, on the average, a "Survey Sheet" was mailed to the volunteer participants. In the Survey Sheet, they were asked to indicate, among other items, their degree of professed "subjective" interest in the nine vocational areas similar to those of the Kuder. At the same time, the covering letter asked them to take the Kuder again. Therefore, on each counselor of Group A, the experimenter obtained an initial file of measured interests and five months later a second file in addition to their opinions of the professed interest in each of the nine general vocational areas similar to those of the Kuder.

Group B was first given the "Survey Sheet" and asked to indicate the degree of interest in each of the nine vocational

areas. It had been ascertained beforehand that they had not been acquainted with the contents of the Kuder. Immediately after they had filled out the Survey Sheets and handed them in, the *Kuder Preference Record* was administered and the profiles collected. By a comparison of the results between Groups A and B, we wished to ascertain the extent to which the Kuder influenced the professed opinions on degree of interest. In other words, we desired to find out whether a person who took the Kuder tended to change his mind about his "subjective" interests in the direction of the obtained "objective" scores.

Typical Interest Profile of Vocational Counselors

The Kuder scores made by the counselors were analyzed for Group A, first and second administrations, and for Group B. The average scores are presented in Tables 3 and 4, together with other data. Within the parentheses are shown the percentile equivalents of each average score. The highest score is in the Social Service area, with second highest in the Persuasive area, and the third highest in the Literary scale. The other scores scatter between the 24th and 42nd percentile points, with the scores in the Artistic scales placing last or tied for last.

It was now necessary to determine whether the differences in scores between the first administrations of the Kuder test given to Groups A and B were statistically significant. Accordingly, the "t" ratios were calculated for the differences between mean scores. All the "t" ratios were well within the range of statistically insignificant differences as may be seen from the data in Table 3. These results show that Groups A and B were not different with respect to the results on the Kuder.

The study also sought to find out whether additional counseling experience would have an appreciable effect upon the pattern of measured interests. This point could be answered by analyzing the differences in scores between the first administration of the Preference Record and a retest given on an average of five months later. The analysis is presented in Table 4. It shows that all differences are statistically insignificant except for the Social Service scale. The change of average scores on the latter was statistically significant beyond

the one per cent level of confidence. However, the percentile scores, which correspond to the means, changed only one point.

TABLE 3
Measured Interests of Two Groups of Counselors Obtained on the Kuder Preference Record

Scale	Means		M_{A-B}	Standard Error		S.E. _{A-B}	"q" ratio
	Gr. A	Gr. B		M_A	M_B		
Mechanical	72.13 (36)*	65.20 (26)*	6.93	2.02	3.59	4.12	1.68
Computational	31.91 (39)	29.91 (31)	2.00	1.01	1.70	1.98	1.01
Scientific	61.07 (33)	57.44 (26)	3.63	1.43	1.94	2.41	1.51
Persuasive	79.43 (82)	81.04 (84)	-1.61	1.69	2.57	3.08	-0.52
Artistic	37.30 (24)	36.94 (23)	.36	1.23	1.91	2.27	0.16
Literary	50.50 (62)	52.48 (68)	-1.98	1.48	2.37	2.79	-0.71
Musical	14.25 (39)	14.94 (42)	-.69	.94	1.55	1.81	-0.38
Social Service	97.28 (98)	97.44 (98)	-.16	1.69	2.56	3.07	-0.05
Clerical	47.54 (31)	49.94 (38)	-2.40	1.20	2.37	2.65	-0.91

* Numbers within parentheses represent percentiles corresponding to mean scores.

TABLE 4
Measured Interests of a Group of Vocational Counselors as Affected by Five Months Additional Counseling Experience

Scale	Means		Change Mid-1	Standard Error		S.E. _{Mid-1}	"q" ratio
	Test 1	Retest 2		Test	Retest		
Mechanical	72.13 (36)*	72.28 (36)*	.15	2.02	2.12	2.93	.05
Computational	31.91 (39)	29.85 (31)	-2.06	1.01	1.08	1.48	-1.39
Scientific	61.07 (33)	58.38 (28)	-2.69	1.43	1.41	2.01	-1.34
Persuasive	79.43 (82)	83.21 (87)	3.78	1.69	1.73	2.42	1.56
Artistic	37.30 (24)	38.12 (25)	.82	1.23	1.32	1.80	.41
Literary	50.50 (62)	49.58 (59)	-.92	1.48	1.46	2.08	-.44
Musical	14.25 (39)	15.07 (42)	.82	.94	.88	1.29	.64
Social Service	97.28 (98)	103.58 (99)	6.30	1.69	1.53	2.28	2.76
Clerical	47.54 (31)	45.51 (25)	-2.03	1.20	1.20	1.70	-1.20

* Numbers within parentheses represent percentiles corresponding to mean scores.

This affected in no material way either the pattern of measured interests or the magnitude of the scores within the pattern.

To construct a typical profile of measured interests for voca-

tional rehabilitation counselors, the scores made by Groups A and B on the first administration of the Kuder were put together. The results are depicted in Figure I, which includes the statistics on average scores, the percentile equivalents, and the standard deviations.

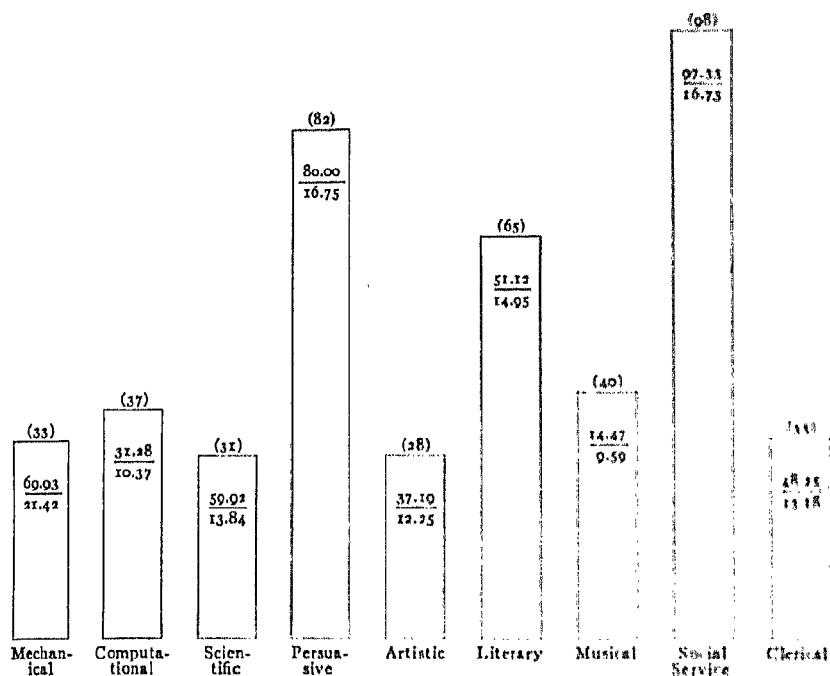


FIG. I. Typical Kuder Interest Profile of 146 Vocational Rehabilitation Counselors

() = Percentiles
 0.00 = Average Score
 0.00 = Standard Deviation

Counselors' Reasons For Using or Not Using the Kuder

One of the questions on the Survey Sheet was "What are some (one or more) reasons why you choose to use the *Kuder Preference Record* or choose not to use it?" This item was to be answered only by those counselors who had used the Kuder in their work. There were 126 reasons given in favor of, and 30 against, the use of the Kuder. The classification of responses was somewhat difficult but the complete enumeration of the answers is presented below.

EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT

In terms of the attempted classifications, the most frequently mentioned value of the Kuder is that it helps "To determine objective or real interests" (49). Closely following one another in frequency were answers grouped under "Serves as Guidance Aid to Counselor, Client, or Both" (25), "Ease of Administration, Scoring, and Interpreting" (21), and "Validity and Scientific Value" (18). The most frequently mentioned of the classified responses against the use of the Kuder were "Lack of time to Administer" (8), "Limitations of the Kuder" (7), "Agency has not made it available" (5), and "Unsuitable for Rehabilitation Group" (5).

Reasons for Using Kuder in Rehabilitation (Total—126 responses)

A. To Determine Objective or Real Interests (49)

- Locates general field of interests—10
- Indication of real interests—7
- Verifies expressed interests of client—6
- Determines interests when client is undecided about objective—5
- Indication of latent interests—4
- Used with young people to determine interests—4
- Discovers interest fields of disabled clients—3
- Gets interest combinations—2
- Finds degree of interest—2
- When clients express no interests or transitory interests—2
- Covers areas of interest for most of our clients—2
- Discovers interests of client with no work record—1
- When there is a lack of subjective interests—1

B. Guidance Aid for Counselor, Client or Both (25)

- Check on client's expressed work objective—6
- Helps in making decisions—3
- Determines type of battery of aptitude tests to use—2
- Secure greater rapport with client—2
- Gives better over-all picture—1
- Assists in clarifying interviewer's impression of client—1
- Serves as a check and balance to counseling—1
- Basis for starting point—1
- Aid in justifying decision—1
- Secures lead for further exploration—1
- Interest is vital element in rehabilitation—1
- Helps in vocational guidance—1
- Aids in stimulating client to think about his capabilities—1
- Emphasis of selection shifted to client—1
- Makes final decision more certain—1
- Helps in setting up job objective—1

- C. *Ease of Administration, Scoring and Interpreting* (21)
 - Ease of scoring, interpreting and administering—12
 - Easily given in high-school guidance program—4
 - Easily given to clients—2
 - Can be taken home by client—1
 - Results available immediately—1
 - Interesting to give and take—1
 - D. *Validity and Scientific Value* (18)
 - Gives scientific basis to counseling—8
 - Apparent validity—7
 - Correlation between interests and success—2
 - Correlates with self-appraisal—1
 - E. *To Indicate Aptitude* (7)
 - Index to interests and aptitudes—3
 - Checks young people's aptitudes against interests—1
 - Statement of segregated aptitudes—1
 - Measure of potential abilities—1
 - Helps determine aptitudes—1
 - F. *Familiarity and Availability* (3)
 - Only test available—2
 - Only test with which counselor is familiar—1
 - G. *Comparison with Other Inventories* (3)
 - Best available—3
- Reasons for Not Using Kuder in Rehabilitation (Total 30)*
- A. *Lack of time to administer* (8)
 - Lack of time to test and score—6
 - Good for large groups, not for individual cases—2
 - B. *Limitations of the Kuder Record* (7)
 - Items unsuitable for rural population—2
 - Fields too broad—1
 - Varying degrees of inconsistency—1
 - Results can be controlled or influenced—2
 - Mechanics inconvenient—1
 - C. *Inventory not available* (5)
 - Not available—3
 - Supply limited—2
 - D. *Unsuitable For Rehabilitation Group under Usual Conditions* (5)
 - Many clients lack education to read—3
 - Conditions of interviewing not conducive to good results—1
 - Not useful for clients with occupational background—1
 - E. *Miscellaneous* (5)
 - Test given by psychologist, not counselor—1
 - Clients reactions to oral questioning as effective—2

Reliability of Measured Interests

The scores made by the counselors on the Kuder test and a retest administered on an average of five months later were

analyzed for reliability. This procedure would make it possible to determine whether the scores remained stable enough so that one could predict with a high degree of confidence. The analysis was made in two ways: first, by computing the coefficients of correlation between first and second scores on each scale, and second, by drawing graphs to show the stability of the letter grades assigned to the scores. The latter are not shown in this report although some of the results are mentioned below.

In Table 5, it will be seen that all of the correlation coefficients but two are .83 or above. Coefficients of this magnitude are usually interpreted as high and satisfactory for individual predictions. The two other coefficients were .70 and .72 for the

TABLE 5
*Test-Retest Correlation Coefficients of the Measured Interests of Vocational
Rehabilitation Counselors*

Scale	"r"	S.E. _r
Mechanical	.85	.03
Computational	.83	.03
Scientific	.84	.03
Persuasive	.72	.05
Artistic	.84	.03
Literary	.89	.02
Musical	.83	.03
Social Service	.70	.05
Clerical	.83	.03

ocial Service and Persuasive scales respectively. These correlations also may be considered high in view of the highly selected population on which they were computed. Scores in the Social Service and Persuasive areas were well bunched in the upper levels of their scales.

When levels of interest are judged in terms of letter grades of A, B, C, D, the stability of the scores in the Persuasive and Social Service areas is striking. (Kuder assigns A to scores above the 75th Percentile, B to scores between the 65th and 75th Percentiles, C to scores between the 25th and 65th, and D to the lowest scores.) On the Social Service scale, 91 pairs of the letter grades remained in the A level upon retest. On the Persuasive scale, only 31 letter grades changed places on retest of which 16 changed one grade, and 4 changed from D to A.

Relationship Between Self-Estimated and Measured Interests

Although other studies have sought to determine the degree of correspondence between self-estimated and measured interests (1), (2), (7), we wondered whether the results applied similarly to as mature and sophisticated a group as the counselors in this study. One phase of the experiment, therefore, was designed to find out to what degree the objective scores

TABLE 6
Correlations Between Measured Interests and Self-Rating of Degree of Interest in Nine Vocational Areas

Scale	Group A		Group B	"t"
	Kuder 2nd vs. Self-Rating	Kuder 1st vs. Self-Rating	Kuder 1st vs. Self Rating	(cols. 4 - 3)*
Mechanical	.75	.74	.62	1.20
Computational	.59	.56	.62	.54
Scientific	.72	.71	.37	2.90
Persuasive	.61	.54	.43	.85
Artistic	.44	.38	.24	.92
Literary	.63	.58	.52	.52
Musical	.70	.64	.62	.20
Social Service	.59	.48	.68	1.80
Clerical	.52	.48	.55	.56
(Median)	(.61)	(.56)	(.55)	

* Resulting "t" ratios were computed according to Snedecor's method of testing for significance of the difference between two correlations by converting to z as an intermediate step. C. F. George W. Snedecor, *Statistical Methods*, Ames, Iowa: The Iowa State College Press, 1946, p. 151.

correlated with the counselors' professed degree of interest in the nine areas of the Kuder.

In order to obtain the self-estimates of vocational interest-areas, the Survey Sheet included a series of rating scales. The accompanying instructions required the counselor to show to what degree he enjoyed activities in the nine vocational fields. The rating scale was in the form of a continuous line with the following guide points from left to right: (Enjoy) Not at all, Indifferently, Fairly Well, Much, Very Much. The recorded ratings were translated into numerical scores by converting the scale into units from 0 to 20. The Kuder scores were then correlated with the numerical scores as derived from the rating scale of the Survey Sheet. The results are shown in Table 6. Since the design of the experiment called for only one adminis-

ation of the Kuder to Group B, the correlations of the latter group are half as many as for Group A.

It will be seen that there is a substantial but not very high relationship between self-estimated and measured interests for this mature group of counselors. The range of correlations is from .24 to .75 with medians of .55 and .61 for counseling groups A and B respectively with regard to measured interests on the first Kuder test versus self-ratings. The highest correlations appear in the Mechanical and Musical scales, and the lowest in the Artistic scale.

As the experiment was being carried out with Group A, it was observed that the counselors would take the Kuder, and after noting the results on the graphic profile, sometimes would remark, "Just as I figured myself." The question arose whether the administration, scoring, and interpretation of the Kuder, would have the effect of "fixing" the person's self-estimates of his interests. It was conjectured that a person's self-estimates of interests would be less in line with the Kuder results if he were asked to express his interests before taking the test.

To test this hypothesis, Group B was included in this investigation. The members of this Group were first requested to fill out the Survey Sheet, before taking the Kuder. Only counselors who had no previous familiarity with the Kuder were included in Group B. Although Group A had been advised, "Try not to be influenced by the scores on the interest inventories which you have taken," the possible influence could not be discounted without experimental proof. Hence, the experimental design sought to detect the influence of the Kuder scores on the subjective ratings of professed interests.

In Table 6, an inspectional comparison can be made of the relations between self-estimated interest and test scores for groups A and B. The data barely suggests that foreknowledge of one's Kuder interest profile has a very slight effect upon their self-estimates. In the first place, six of the nine correlation coefficients for Group B are lower than the corresponding coefficients in each of the two administrations for Group A. Another indication of the slight trend may be deduced from the median coefficients for the three different conditions of ad-

ministering the Kuder. With no foreknowledge of Kuder scores, the median correlation coefficient between measured and professed interests for the nine scales is .55 for Group B. For Group A which had foreknowledge of its Kuder scores, the median correlation is .56 when the first Kuder test is involved, and .61 with the second interest test.

The indications above consistently suggest that a knowledge of the Kuder results slightly influences self-estimates of interest in the direction of the objective measurements. However, this statement is made very guardedly. Applying the test of the significance of the difference between correlation coefficients of Groups A and B (when self-estimated interests and 1st Kuder scores are involved as the variables for each correlation coefficient), the ratios are all statistically insignificant except for the Scientific scale. The "t" ratios are shown in Table 6. It is not possible with the data at hand to account for the one significant difference when the differences between correlations are insignificant for all other eight scales. Perhaps the maturity and sophistication of the counseling group accounts for the resistance to change in their self-estimated interests. An experiment similar to this but with younger student groups may show that the Kuder results tend to fix professed interests in line with the results of objective measures. Such an experiment would seem to be worthwhile in view of the usual assertion by psychologists that interest inventories encourage self-analysis and decisions on vocational preferences.

Summary

Two groups of vocational rehabilitation counselors were requested to take the *Kuder Preference Record* and to express their self-estimates of interests under two somewhat different sets of conditions. Group A of 100 counselors filled out the Kuder, then on an average of five months later were asked to retake the Kuder and fill out a Survey Sheet in which was recorded their self-estimated degree of interest in the nine vocational areas similar to those of the Kuder. Group B were first asked to express their subjective interests in the Survey Sheet, then to take the Kuder the same or next day.

The typical profile of measured interests was: Social Service (98 P), Persuasive (82 P), Literary (65 P), Musical (40 P),

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Computational (37 P), Mechanical (33 P), Clerical (33 P), Scientific (31 P), Artistic (28 P). The individual scales on the Kuder were found to have a high retest reliability, the coefficients being .83 and above, except for the Social Service and Persuasive scales with coefficients of .70 and .72 respectively. In view of the highly selected type of population, the reliability coefficients are considered highly satisfactory.

The relationship between measured and self-estimated interests ranged from .24 to .75 for the broad vocational areas as represented in the *Kuder Preference Record*. The median coefficients on the nine scales were .55 and .61 for Groups A and B respectively. The changed experimental conditions for Group B gave some very slight and highly unreliable indications to show that foreknowledge of Kuder measured interests would influence self-estimated interests in the direction of measured interests. The latter results raise the question whether less mature student groups would change or stabilize their notions of self-estimated interests by taking an objective inventory like the Kuder.

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PREDICTING MATHEMATICS GRADES OF VETERAN AND NONVETERAN STUDENTS

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Introduction

THE need has often been felt in the Counseling Service at Princeton University of a sound basis for predicting success in the introductory courses in mathematics. Since mathematics is a key subject for students who concentrate in the physical sciences and in engineering, the prediction of success in beginning mathematics courses may be quite helpful in counseling students regarding the advisability of entering such fields. An adequate method of predicting achievement in mathematics is also of value to faculty advisors, who, for example, frequently must assist a student in deciding on the advisability of taking Mathematics 101 (Algebra and Trigonometry) or Mathematics 103 (Elementary Calculus).

Several appropriate predictive measures are ordinarily available for Princeton students. These measures include the College Entrance Examination Board *Scholastic Aptitude Test* scores, both Verbal (SAT-V) and Mathematical (SAT-M), and the Converted School Grade (CSG). The CSG is a prediction of freshman average grade at Princeton which is obtained from the student's rank in his high-school class. In computing a student's CSG, a correction is introduced which is based on the past records at Princeton of students who came from his particular school.

The presence of a large number of veteran students in recent years has resulted in two special problems in connection with the prediction of success in mathematics courses. The first problem resulted from the fact that for a fairly large proportion of the veteran students the usual predictive measures were not available, either because veterans were admitted on the basis

General Educational Development Test scores or they were omitted through a college training program such as the V-12. This problem suggested the desirability of obtaining Princeton norms for some other easily administered mathematics test and of studying its predictive value. The *Cooperative General Achievement Test, Part III, A Survey Test in Mathematics, Form O*, was selected for this purpose in collaboration with a member of the Department of Mathematics.

Secondly, there was the question of whether or not the predictive measures were equally applicable to veteran and nonveteran students. The belief seems to be prevalent among educators (2) that veteran students are doing exceptionally well in college, that their achievement exceeds that which would be predicted on the basis of tests of aptitude. It therefore seemed desirable to study the predictive value of the tests for veterans and nonveterans separately, in order to determine whether or not the regression formulae would apply equally well to both groups.

The three purposes of this study, then, were as follows:

1. To develop local norms for the *Cooperative Survey Test in Mathematics*.
2. To investigate the value of various predictive measures in forecasting grades in mathematics courses.
3. To study the relation of veteran or nonveteran status to achievement in mathematics at Princeton.

The Data

The *Cooperative Survey Test in Mathematics* was administered during the first week of classes in the fall of 1946 to all students enrolled in Mathematics 101 or 103. The test was administered during a regular class period by the mathematics instructors. The groups to which this test was given were used as the basis for the study. These groups consisted of 500 students in Mathematics 103 and 94 students in Mathematics 101. All students enrolled in these two courses were included except the absentees on the day of giving the test.

In addition to the Survey Test scores, certain other data were obtained. College Board *Scholastic Aptitude Test* scores, both Verbal and Mathematical, and the Converted School Grades

were obtained from records in the registrar's office. Some veteran students had taken the *Special Aptitude Test for Veterans* (SV) rather than the *Scholastic Aptitude Test*. SV-Verbal test scores were converted to SAT-V test scores by means of a graph which was constructed from a regression formula supplied by the College Entrance Examination Board. Such a conversion was necessary only for the verbal scores.

Final grades in Mathematics 101 and 103 were used as the criteria of success. The Princeton grading system involves seven groups, with Group 1 representing high achievement and Group 7 low achievement. Plus and minus categories are also used. Groups 6 and 7 are both failing grades. The following conversion table was used for course grades (and for CSG) in order to turn the scales right side up and to avoid the plus and minus categories:

1+	21	4+	12
1	20	4	11
1-	19	4-	10
2+	18	5+	9
2	17	5	8
2-	16	5-	7
3+	15	6	5
3	14	7	2
3-	13		

Grades of 6+, 6-, 7+, and 7- are not used.

Other data were obtained from blanks filled in by students on the cover of the test booklet; these included age, year of high-school graduation, number of terms of mathematics previously studied (in high school or college), academic status (freshman, sophomore, etc.), and whether veteran or nonveteran.

Using a sample of 169 veteran students, a correlation of .88 was found between *age* and *year of high-school graduation*. Since the two variables are closely related, only one of them was used. *Year of high-school graduation* was selected, because recency of graduation seemed more likely to be related to academic success than age.

Still another variable used in the study was a measure of reading ability known as Level of Comprehension. Level of Comprehension is one of the scores obtained from the *Co-operative English Test C2: Reading Comprehension*, which has

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en given each fall to newly entering students at Princeton. This variable was selected because it is a measure of comprehension rather than speed in reading.

Princeton Norms

Norms were developed for use in interpreting *Cooperative Survey Test* scores at Princeton. By means of a conversion table (Table 1) it is possible to convert scaled scores to percentile ranks based on that portion of the Princeton population

TABLE 1
Norms for Cooperative Survey Test in Mathematics
(Based on 94 students enrolled in Mathematics 101 and 500 students in Mathematics 103, September 1946)

Scaled Score	Percentile Rank
96	99
88	95
85	90
83	85
81	80
80	75
79	70
77	60
75	50
73	40
71	30
70	25
69	20
67	15
66	10
63	5
57	1

which in the fall of 1946 was enrolled in one of the beginning mathematics courses (101 or 103).

These norms should not be thought of as Princeton norms or even as Princeton freshman norms, since those students in the mathematics courses undoubtedly represent a select group with respect to mathematical ability. The mathematics-student norms are, as a matter of fact, more useful than general freshman norms would be. When advising a student regarding mathematics courses, his comparison with mathematics students is more relevant than his comparison with Princeton students in general.

The mean scaled score for the Princeton students is 75.0. According to the Educational Records Bureau, the median for entering college freshmen is 58.5, and for independent-school seniors with four years of mathematics the median is 74.2.

Prediction of Success in Mathematics Courses

The intercorrelations of the various predictive measures with final grades in the two mathematics courses are shown in Tables 2 and 3. The N's have been reduced to some extent because of the desirability of basing all the correlations on the same sample in order to make it possible to compute multiple correlations. Thus only cases with complete data could be included. The loss of cases was greatest for veterans because of the fact that some of them were admitted with GED test scores rather than College Board scores, and some were admitted through the V-12 program and had no aptitude test scores at all. The intercorrelations of the variables for the Mathematics 103 students were based on 170 veterans and 250 nonveterans. The samples for the Mathematics 101 students were much smaller; there were only 36 veterans and 39 nonveterans for whom data were complete, even though Level of Comprehension was eliminated. The statistics for Mathematics 101 are therefore considerably less reliable than those for Mathematics 103.

The column in Table 2 headed *Mathematics 103 Final Grade* contains the validity coefficients for the predictive measures. Three of the measures have fairly high predictive value for both veterans and nonveterans; these measures are the *Cooperative Survey Test of Mathematics*, *SAT-M*, and the *Converted School Grade*. The six validity coefficients all fall between .51 and .53.

The measures of verbal ability (SAT-V and Level of Comprehension) both have low positive correlations with the criterion.

Number of terms of mathematics previously studied is a factor which has little, if any, relation to success in Mathematics 103. For nonveterans the correlation is $-.03$, while for veterans the correlation is $.19$. This variable also has essentially zero correlations with almost all of the predictors, including the

TABLE 2
Intercorrelations, Means, Standard Deviations, and Standard Errors of Estimate of Predictors and Mathematics 103 Final Grades

		SAT-V	SAT-M	CSG	Year of H.S. Graduation	No. Terms of Mathematics	Level of Comprehension	Mathematics 103 Final Grade	N	Mean	Standard Deviation	Standard Error of Estimate
Cooperative Survey Test	Vet.	.35	.63	.42	.10	-.02	.34	.52	170	73.30	7.27	3.8
	Nonvet.	.34	.62	.42		.03	.22	.52	250	78.80	6.81	3.5
SAT-V	Vet.		.31	.37	-.14	-.27	.56	.26	170	527.59	94.85	4.2
	Nonvet.		.17	.38		-.08	.55	.24	250	562.00	87.70	4.0
SAT-M	Vet.			.32	.04	.09	.20	.53	170	609.62	77.41	3.7
	Nonvet.			.35		.10	.06	.52	250	631.34	57.54	3.5
CSG	Vet.				.00	.05	.28	.52	170	11.72	2.55	3.8
	Nonvet.					-.07	.26	.51	250	13.30	2.36	3.5
Year of H.S. Graduation	Vet.					-.11	-.11	-.04	170	43.93	1.16	4.4
	Nonvet.											
No. Terms of Mathematics	Vet.						.09	.19	170	8.48	1.41	4.3
	Nonvet.						.00	-.03	250	8.22	1.14	4.2
Level of Comprehension	Vet.							.24	170	69.55	10.23	4.3
	Nonvet.							.24	250	70.08	9.72	4.0
Mathematics 103 Final Grade	Vet.								170	12.28	4.44	
	Nonvet.								250	13.46	4.19	

mathematics achievement test. Veterans were more variable with respect to amount of mathematics previously studied than were nonveterans.

The amount of time elapsing since high-school graduation is also unrelated to Mathematics 103 grade for veterans.¹ There is a slightly greater tendency for year of high-school graduation to bear a positive relation to measures of mathematics ability than to measures of verbal ability. (The comparable set of correlations was not computed for nonveterans because practically all of the nonveterans were graduated in the same year.)

The Mathematics 103 grades can be predicted slightly more accurately for nonveterans than for veterans, as is shown by the smaller standard errors of estimate. The unit, it will be recalled, is one-third of a group. The standard errors of estimate are therefore slightly greater than one group on the Princeton grading system.

The corresponding table of intercorrelations for Mathematics 101 is shown in Table 3. The correlations shown in Table 3 are far less reliable, from a statistical standpoint, than those in Table 2 because of the smaller number of cases. It shows, however, the same general tendencies as were apparent for Mathematics 103: the Survey Test, SAT-M, and CSG are among the best predictors; SAT-V has a low positive correlation with the criterion; and number of terms of mathematics previously studied has low predictive value.

Two of the measures which proved to have high predictive value for Mathematics 103 are ordinarily available for Princeton students—SAT-M and CSG. It was found that the multiple correlation of these two variables with Mathematics 103 grade (for nonveterans) was .63, which represents a considerable increase in accuracy of prediction over the variables used singly.

As an aid to the use of SAT-M and CSG in actual prediction, an abac (Figure I) has been constructed which can be used for quickly finding the most probable Mathematics 103 grade for

¹ A similar result was obtained in a study of veteran students at the University of Pennsylvania (1).

TABLE 3
Intercorrelations, Means, Standard Deviations, and Standard Errors of Estimate of Predictors and Mathematics 101 Final Grades

	SAT-V	SAT-M	CSG	Year of H.S. Graduation	No. Terms of Mathematics	Mathematics 101 Final Grade	N	Mean	Standard Deviation	Standard Error of Estimate
Cooperative Survey Test	Vet. Nonvet.	.25 .67	.11 .46	-.17	.07 -.26	.32 .45	36 39	69.50 70.96	4.11 6.00	2.8 3.4
SAT-V	Vet. Nonvet.	-.01 .17	.15 .49	-.34	.18 -.20	.17 .28	36 39	507.42 550.01	62.08 80.51	3.0 3.7
SAT-M	Vet. Nonvet.		-.09 .56	.16	.17 -.43	.33 .41	36 39	559.08 556.17	51.67 65.13	2.8 3.5
CSG	Vet. Nonvet.			-.49	-.15 -.06	.30 .36	36 39	11.00 12.26	1.71 2.41	2.9 3.6
Year of H.S. Graduation	Vet. Nonvet.				.23	-.41	36	43.61	1.03	2.7
No. Terms of Mathematics	Vet. Nonvet.					-.13 .23	36 39	7.08 6.96	1.56 1.80	3.0 3.7
Mathematics 101 Final Grade	Vet. Nonvet.						36 39	14.22 13.23	3.03 3.85	

a student with any combination of SAT-M score and CSG. The directions which were prepared for using the abac are reproduced below:

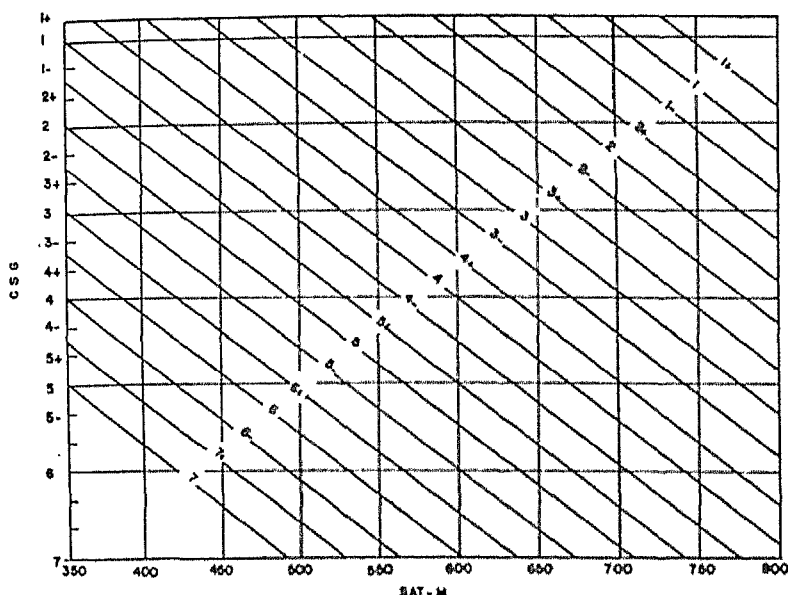


FIG. 1. ABAC FOR PREDICTING MATHEMATICS 103 GRADES FROM SAT-M AND CSG

DIRECTIONS FOR USING THE ABAC

This abac can be used in predicting a student's final grade in Mathematics 103 from SAT-M score and CSG.

Locate the point on the horizontal scale at the bottom of the abac which corresponds to a student's score on the SAT-M. Follow a vertical line up from this point until you reach the horizontal line which corresponds to the student's CSG, shown on the vertical scale at the left. The diagonal which is nearest the intersection of these two lines indicates the predicted Mathematics 103 final grade.

For example, suppose we wish to predict the final grade of a student whose SAT-M score is 600 and whose CSG is 3. Locate 600 on the SAT-M scale; follow the vertical line up to the point where it intersects the horizontal line corresponding to a CSG of 3. The intersection is nearest the diagonal labeled 3-; therefore, the most likely Mathematics 103 final grade for this individual is 3 minus.

The prediction obtained by this method gives the *most probable* grade. Not all students with any particular combination of an SAT-M score and a CSG will make the same grade

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in Mathematics 103. The chances are about 2 out of 3, however, that the actual grade received by a student will not differ from the predicted grade by more than one group. Two-thirds of the students who are predicted to have grades of 2 minus, for example, may be expected to make grades no higher than 1 minus or no lower than 3 minus. The predictions obtained from the central part of the abac are more accurate than those obtained near the edges.

In the event that SAT-M and CSG are not available, it is possible to give a student the *Survey Test of Mathematics* and so obtain a fair prediction of success.

Comparison of Veteran and Nonveteran Students With Respect to Achievement in Mathematics

As may be seen from the means shown in Table 2, nonveteran students on the average made better grades in Mathematics than did veterans. This cannot be taken at face value as evidence that veterans are handicapped by their war service. Veterans have lower mean scores on every one of the variables except on the number of terms of mathematics previously studied. It is therefore entirely possible that the lower grades in Mathematics 103 may be accounted for by lower aptitude. The relationships between grades in Mathematics 103 and each of the three best predictors (SAT-M, the Survey Test, and CSG) are shown in Figures II, III, and IV. These figures show, for veteran and for nonveteran students, the regressions of Mathematics 103 grades on each of the three predictors in turn. The regression lines may be used for prediction. The very middle lines in each graph show what Mathematics 103 grade will most probably be obtained by a student with any particular score on the predictive measure. The standard errors of estimate are shown by the lighter lines above and below the regression lines.

It is apparent from Figures II, III, and IV that it makes little difference whether one is dealing with a veteran or a nonveteran; predictions will be practically the same. Judging from inspection of the three figures, one would say that veterans and nonveterans are alike: the standard errors of estimate are very similar, the slopes of the regression lines are practically the same, and data from both groups tend to fit the same regression

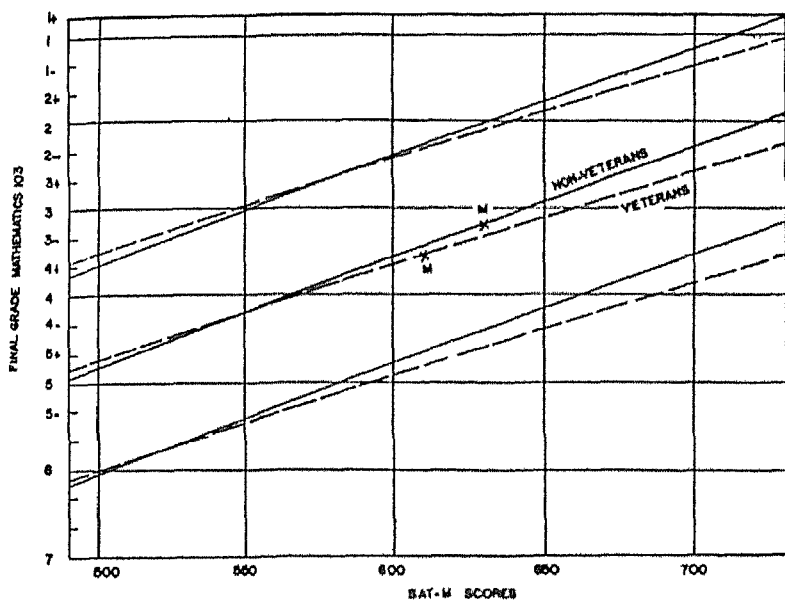


FIG. 2. REGRESSION OF MATHEMATICS 103 FINAL GRADE ON SAT-M

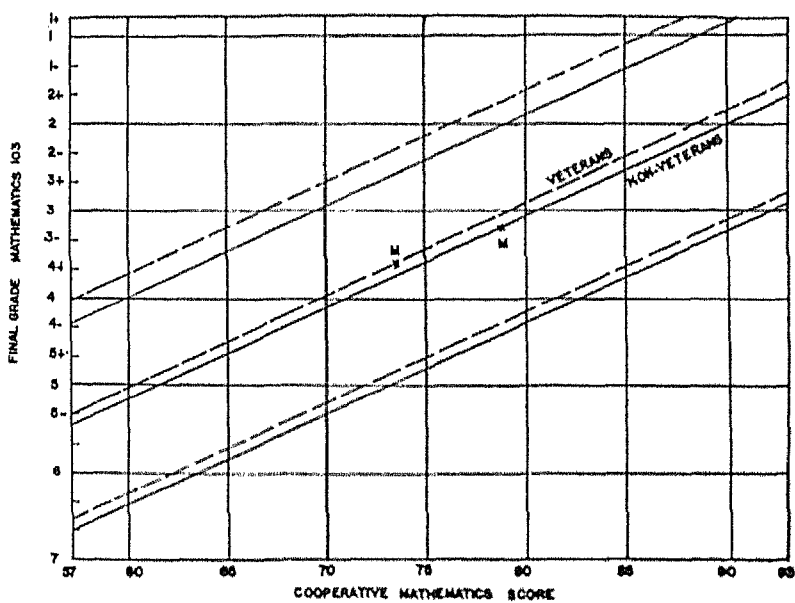


FIG. 3. REGRESSION OF MATHEMATICS 103 FINAL GRADE ON COOPERATIVE MATHEMATICS SCORE

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Whatever veteran-nonveteran differences exist seem to be predictable on the basis of aptitude and preparation. The regressions of Mathematics 103 grades on SAT-M, the Army Test, and CSG, for veterans and for nonveterans, were studied by means of analysis of covariance techniques. The method used was one devised by S. S. Wilks (3). By this method, three hypotheses are tested: (1) the hypothesis that standard errors of estimate are the same for the groups

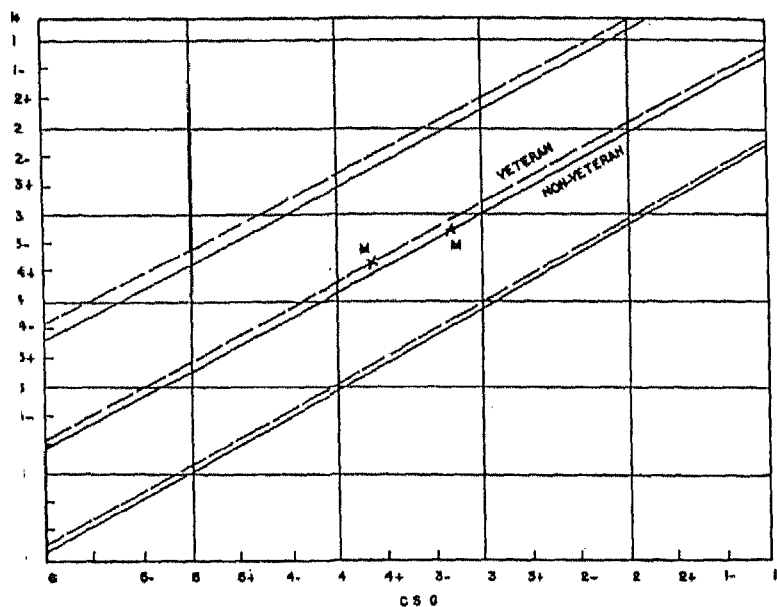


FIG 4. REGRESSION OF MATHEMATICS 103 FINAL GRADE ON CSG

being studied (in this case, veterans and nonveterans); (2) the hypothesis that the slopes of the regression lines are the same; and (3) the hypothesis that the intercepts of the regression lines are the same, i.e., that the data from both groups fall on the same regression line.

The result of the test of each hypothesis is expressed in terms of the probability (P) that the observed difference would have occurred by chance. The results are shown in Table 4.

The standard error of estimate of Mathematics 103 grades on SAT-M for veterans was 3.7 and for nonveterans, 3.5.

The probability that this difference might have occurred by chance is found to be .52. The two regression coefficients are, for veterans and nonveterans respectively, .03 and .04; the probability of a difference of this magnitude occurring by chance is found to be .18. The probability that the difference in intercepts of the regression lines might have occurred by chance is .21. Since this difference is well within the range of probability, it may be concluded that veterans and nonveterans do not differ in grades in Mathematics 103 when aptitude, as measured by the SAT-M, is taken into account.

In the case of the *Survey Test in Mathematics*, the standard errors of estimate are 3.8 and 3.5 for veterans and nonveterans respectively; the value of P is found to be .46. The regression

TABLE 4
Probabilities that Differences in Errors of Estimate, Slopes of Regression Lines, and Intercepts Resulted from Chance Fluctuations

Regression of Mathematics 103 Grade On:	P-Value		
	Hypothesis of Equality of Errors of Estimate	Hypothesis of Equality of Slopes	Hypothesis of Equality of Intercepts
SAT-M	.52	.18	.21
Survey Test	.46	.99	.15
CSG	.43	.99	.60

coefficients are almost identical; carried to four decimal places, they are .3188 and .3193. The P-value for the hypothesis of equality of slopes is .99. In the case of the hypothesis of equality of intercepts, the P is .15. Again the conclusion is that when allowance is made for differences in aptitude and preparation, there is no significant difference between veterans and nonveterans.

The standard errors of estimate of Mathematics 103 grades from CSG were found again to be 3.8 and 3.5 for veterans and nonveterans; these values are not significantly different, as is shown by a P of .43. Again we find that the regression coefficients are almost identical (.9089 and .9072) and P equals .99. The hypothesis of equality of slopes is not disproved, the P being .60.

The similarity in slopes of the regressions of Mathematics

103 grades on Survey Test scores and on CSG is of course far greater than one would expect on the basis of sampling theory. No explanation of this finding can be offered.

The conclusion to be drawn from the analysis of covariance is that veteran and nonveteran students in the Mathematics 103 course at Princeton are essentially alike; differences in achievement as measured by course grades are accountable in terms of differences in aptitude and preparation. This conclusion holds for all three predictive measures.

One of these predictive measures (the Survey Test) is based on a testing done at the very beginning of the mathematics course; another (CSG) is based on school records which, in the case of the veterans, were earned on the average about three years prior to beginning the mathematics course; the third (AT-M) was earned by veterans sometimes at about the time of high-school graduation and sometimes after war service (in the case of the SV test). The conclusion that, taking ability into account, there is no significant difference between veterans and nonveterans in mathematics achievement holds for measures obtained at the beginning of the course and also for measures obtained, in the case of veterans, several years prior to the beginning of the course.

The corresponding regression lines for Mathematics 101 grades are not shown, since the small number of cases makes the statistics unreliable. It may be stated, however, that the regression line for veterans is above the regression line for nonveterans in each of the three cases; knowing that a student is a veteran would result in a slightly higher prediction of mathematics 101 grade. The analysis of covariance was not applied in the case of the Mathematics 101 data because the technique assumes an N of at least 50.

Summary

The purposes of this study were (1) to develop local norms for the *Cooperative Survey Test in Mathematics*; (2) to investigate the value of the Survey Test and other available measures of ability for predicting grades in Mathematics 101 and 103; and (3) to study the relation of veteran-nonveteran status to achievement in mathematics.

The *Cooperative Survey Test in Mathematics* was administered to beginning students in Mathematics 101 and 103 during the first week of the term. In addition to the Survey Test scores, the following data were obtained:

- SAT-V score
- SAT-M
- Converted School Grade
- Age
- Year of high-school graduation
- Number of terms of mathematics previously studied
- Veteran-nonveteran status
- Level of Comprehension score
- Final grade in Mathematics 101 or 103

Complete data were obtained for an adequate number of veteran and nonveteran Mathematics 103 students. The number of cases for Mathematics 101 was too small to give statistically reliable results.

A table was prepared for converting scaled scores on the Survey Test to percentile ranks based on Princeton students enrolled in Mathematics 101 and 103.

The best predictors of success in mathematics are SAT-M, CSG, and the Survey Test Scores; the validity coefficients of all these variables, using Mathematics 103 grade as the criterion, ranged from .51 to .53. The prediction is improved by combining SAT-M and CSG ($R = .63$). Number of terms of mathematics previously studied had little predictive value.

An abac was constructed which makes it possible to rapidly translate any combination of CSG and SAT-M to a predicted grade in Mathematics 103 without computation.

Nonveteran students were superior to veterans in mean final grade in Mathematics 103. Study of the regressions of mathematics grades on the predictors shows, however, that the difference in achievement between veterans and nonveterans may be accounted for by differences in aptitude and preparation. The application of Wilks' method of analysis of covariance shows that the differences between standard errors of estimate, slopes of regression lines, and intercepts are all within the range of chance expectancy.

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COUNSELING—AN EDUCATIONAL TECHNIQUE¹

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TRADITIONALLY, counselors have been concerned with students having problems. Insofar as all students have problems, counselors have directed most of their efforts toward those students whose problems are expressed through behavioral manifestations of maladjustment. Counselors have assigned to themselves the task of helping "individuals who are maladjusted, or perplexed, or failing or delinquent" (3). They have worked primarily "with students who do not respond adequately to standardized instruction" (5).

Although recognizing and agreeing with the principles stated by Cowley, Prescott, Douglas, and Williamson, most counselors have failed to regard their function as other than a therapeutic one. Their general procedure is to diagnose a "problem," or to allow the student to find it himself, and then to apply therapy, whether it be advice, suggestion, or non-direction. The counseling process centers around the concept of a problem, or, for the more sophisticated counselors, around the concept of a pattern of problems.

Counselors are certainly aware of those students falling into Bordin's (1) category of "no problem," but when this diagnosis is made, the customary procedure is to dismiss the student with the conclusion, sometimes stated to the student, that he does not need counseling. The counselor can and should assume a much broader role.

The thesis of this paper is that the counseling provided by a well-trained, capable counselor is an educational technique which can benefit *all* students. If counseling is defined not as

¹ The points of view presented in this paper summarize discussions in which many staff members at the University of Minnesota have participated; however, the author accepts full responsibility for the statements here made. Most appreciation is due to Dean E. G. Williamson who has so succinctly raised many of the questions discussed here.

a therapy for students having difficulties but as an educational situation offering to all students opportunities for development, the part the counselor plays in our educational system becomes quite different from that played in the past (4).

From the time a counselee enters the interviewing room, the counselor carefully observes his behavior, both verbal and otherwise, to identify possible problems and when such identifications are made, to treat these problems. The counselee, however, can obtain more in the interview than the alleviation of psychological conflicts and these additional functions of the interview can be listed.

1. The interview offers the counselee an opportunity for establishing a responsible relationship with a respected adult. The intimate contacts most students have are restricted to members of their family or to people in their own age groups and many college students have no more than casual contacts with other mature individuals. A counselor who is willing to discuss in a situation void of emotional tensions and pressures, a student's political, religious, social or sexual beliefs, and who reacts to the student's statements as an appreciative adult, can provide the student with an experience often obtained by young people out of school and working with adults but frequently not available to college students.

2. The counseling situation provides an opportunity for the student to feel that someone is interested in him as a person. This is particularly a problem in a large school where individual contacts between staff members and students may not be extensive. Knowing that someone is available and willing to engage in a face-to-face conversation offers the student an ego satisfaction often difficult to obtain in many colleges. Assuming a need for affiliation (2), the counseling interview provides an opportunity for the student to gain both social experience and to obtain satisfaction of that need.

3. The counseling situation offers the student an opportunity to recognize explicitly his goals and to verbalize the processes which resulted in their selection. Most students are working toward goals they have previously chosen. Frequently they have not defined realistically these goals; often they have not understood the means by which they selected these goals, and

usually they know little of the motivations underlying these selections. Although students need not be encouraged to engage in excessive introspection nor non-productive self-study, they must be taught the need for understanding their own motives and those of others. By discussing those things for which students are working, and why they are doing this, the counselor can assist the student in understanding his own personal mechanisms and can help the student to evaluate his progress toward his goals. The definition of goals and the clarification of motives are two activities a counselor can engage in with any student.

4. Every student must acquire certain skills and learn certain facts which are most effectively taught through the means of personal interviews. In certain areas, such as the field of occupations, general knowledge teachable in larger groups is desirable, but specialized knowledge, relevant to a single or only to a few students, is also necessary. This type of information can be taught most effectively by counselors. In group psychotherapy, individual therapy is a necessary adjunct. In group instruction, counseling instruction is frequently needed. This is particularly true where the subject matter of the course relates directly to the life of the student, as it does in courses on marriage and family life, mental hygiene, abnormal psychology, and vocational orientation.

If the counselor attempts to perform these functions, along with his previously recognized ones of helping students solve problems, the techniques used in counseling and the attitudes of the counselor toward counseling will have to be changed. More emphasis must be placed by the counselor on the personal relationship between counselee and counselor. The counselee also will have to perceive that the counselor is not interested in the problem but rather in the student and will have to accept the counselor not as a specialist who defines and helps solve problems but rather as a rational and feeling adult ready to enter into a constructive social-personal relationship with the student.

When doing this type of counseling, the counselor will not have to refrain from talking about himself and can reveal his own attitudes and relate his own experiences. The student

will have to see the interview as a give-and-take situation where those exchanges characteristic of most effective social situations prevail. The depth of emotional relationship involved in psychoanalytic transfer is neither necessary nor desired here, but the counselor must assume a personalized, affective role in the counseling situation.

The goals of this type of counseling do not preclude the use of test data. In fact, until students become accustomed to this new educational role of the counselor, tests can provide a convenient and harmless means of establishing the desired relationship. In many schools, all entering freshmen, all juniors, or all the students falling into other categories are given one or more tests for purposes of classification, screening, obtaining norms, or research. Frequently the students tested are invited at the time of the examination to see a counselor to discuss the results of the tests. Many students who have problems accept these invitations and thus establish contact with a helpful counselor. Many other students who have no observable problem also accept the invitation, motivated by curiosity, a hidden problem, or the need for talking with someone. What the counselor does with these latter students depends upon his view of the counseling situation. If he is a therapist only, and not an educator, he carefully observes the student for any problems, and finding none, describes the test scores and concludes the contact. If he is attempting to make a counseling interview of this contact, he accepts the interview as a normal social situation and works toward the goals already described.

An example of the difficulty involved in orienting counselors to this approach was recently observed at the University of Minnesota. A research project involving several hundred students required that they take the *Minnesota Multiphasic Personality Inventory*. As a "reward" for completing the inventory, the students were told that they could come to the Student Counseling Bureau and discuss the results with a counselor. When they came to the counselors requesting "an interpretation of the Mult," many of the counselors were disconcerted, particularly when none of the scores on the Multiphasic reached a point two standard deviations or more beyond the mean. Only after realizing that the test scores served pri-

marily to allow a counseling contact, rather than to provide material for discussion in the interview, did these situations begin to assume the characteristics of counseling interviews.

One thing has become apparent from studying this type of interview. The counselor cannot give to the student the entire responsibility for determining the direction of the interview. Leads, such as "What's on your mind?" "What would you like to discuss?" etc., are not productive, particularly after the opening phase of the interview. The counselor must share with the student the responsibility for the conversation, helping in the selection of topics, asking questions which give direction to the interview, and acting more as a participant than as a neutral listening post.

The traditional techniques of counseling all have a place in these situations. Information giving, reflection of feeling, suggestion, interpretation, questioning—all can be used appropriately. When the student maintains, quite legitimately, the attitude that he is not a problem, these techniques must be used with a careful hand.

The implications of this educational role of the counselor are manifold. Obviously, the counseling program and the instructional program must be closely coordinated. This has been the practice for several years in the General College of the University of Minnesota, where students in classes in vocational orientation and individual orientation have accepted their counselors in these described roles. More recently, the course, "Preparation for Marriage," in the College of Science, Literature and the Arts at Minnesota has made more extensive use of this relationship. Three of the instructors in this course, including the Chairman of the Family Life Sequence, hold appointments as one-half-time counselors in the Student Counseling Bureau. As part of the course work, students have one or more personal interviews with these instructors and these interviews are structured as counseling interviews. All data available to University counselors are in the hands of these instructors and instruction is individualized and personalized to the point where student and counselor are participating in a socially meaningful relationship.

Counselors who are to assume these functions will perhaps

quire training not now obtained by most counselors. Although they must be skilled diagnosticians and therapists, they must also be sound educators possessing well-thought-out educational philosophies and having a clear understanding of the educational problems of normal youth. Obviously, a larger number of better-qualified counselors than are now available will be needed if this function of the counselor is fully recognized.

The hitherto accepted idea that counseling must occur in an office, preferably over a desk, must also be re-examined. Counselors may have to go where students are—to rallies, picnics, camps, and meetings, instead of waiting for students to come to their offices or to a counseling bureau. These counseling offices themselves perhaps should be changed from typical offices to conversation-stimulating situations. An experiment of this sort is already under way where a comfortable interviewing room *without a desk* is in use and interviews conducted in this room are being compared to interviews conducted in the more traditional offices.

Finally, if counselors are to assume this new role, they must create a new stereotype of themselves to be held by educators and students. More of their discussion must concern the "normal" student, more of their concern directed toward the educational problems and dilemmas of society. Following this, counseling as an educational technique need not limit itself to the schools but, like all education, can enter into the community.

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THE DEPENDENCE OF FACTORIAL COMPOSITION OF APTITUDE TESTS UPON POPULATION DIFFERENCES AMONG PILOT TRAINEES. II. THE FACTORIAL COMPOSITION OF TEST AND CRITERION VARIABLES

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A PREVIOUS report (1) was concerned with the isolation and identification of factors from a battery of tests (*The AAF November 1943 Classification Battery*) administered to three groups of pilot trainees representing different selective conditions. The three groups were: The Experimental group—1012 men admitted to pilot training without regard for scores in a qualification examination or for scores on the classification battery; The WASP group—198 women in pilot training; and, a Restricted group—1920 men selected for pilot training on a basis of a qualifying examination and their pilot aptitude scores. It was found that the selective conditions did not alter materially the identification of factors obtained. The present study examines the factorial composition of the test and criterion variables more closely in an attempt to determine how, or if, the functions of these variables change appreciably from group to group.

Factorial Composition of the Test Variables

It is possible to examine the factorial composition of the test variables directly from the factor loadings. However, it seems more meaningful to discuss the variables in terms of variance because variances can be summed and treated as numerical quantities. The variance is merely the square of the factor loading.

The factorial composition of the tests is most easily appreciated if the variances are represented by simple charts depicting the proportion of each test's variance accounted for by each

6 EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT

ACTORIAL COMPOSITION OF TESTS COMPRISING THE AAF NOVEMBER 1943 CLASSIFICATION BATTERY

SYMBOLS:

- | | | |
|---------------------|--|---------------|
| —Verbal | PM—Psychomotor Coordination | R—Reasoning |
| —Number | PM ₁ —Psychomotor Precision | I—Integration |
| —Perceptual Speed | PM ₂ —Psychomotor Speed | K—Kinesthetic |
| z—Visualization | ME—Mechanical Experience | O—Other |
| I—Aviation Interest | MB—Mathematics Background | S—Specific |
| P—Space | M—Visual Memory | E—Error |

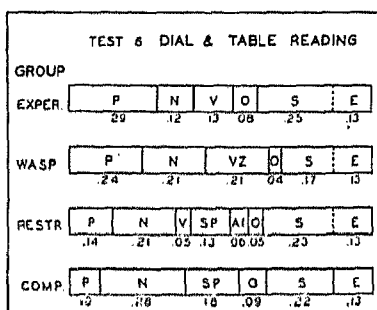
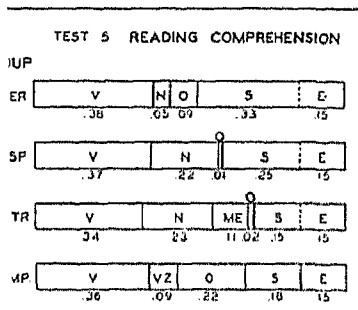
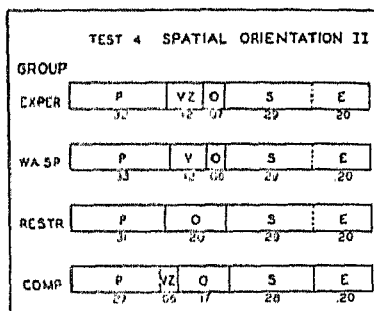
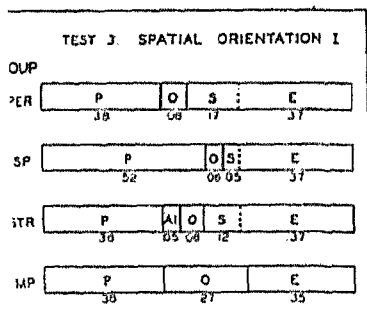
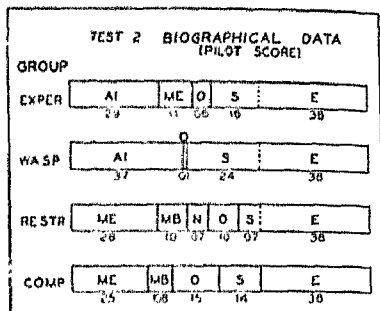
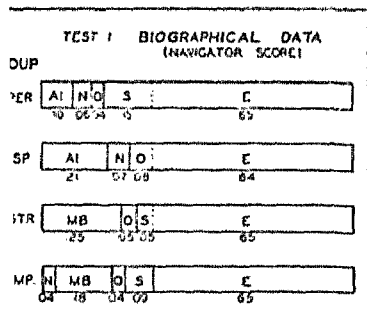


FIG. 1

FACTORIAL COMPOSITION OF TESTS COMPRISING THE AAF NOVEMBER
1943 CLASSIFICATION BATTERY

SYMBOLS:

V—Verbal
N—Number
P—Perceptual Speed
VZ—Visualization
AI—Aviation Interest
SP—Space

PM—Psychomotor Coordination
PM₂—Psychomotor Precision
PM₃—Psychomotor Speed
ME—Mechanical Experience
MB—Mathematics Background
M—Visual Memory

R—Reasoning
I—Integration
K—Kinaesthetic
O—Other
S—Specific
E—Error

TEST 7. MECHANICAL PRINCIPLES									
GROUP									
EXPER.	ME	VZ	V	O	S	E			
	.20	.23	.10	.08	.32	.07			
WASP	V	N	O	S	E				
	.23	.09 .05		.56		.07			
RESTR.	ME	SP	O	S	E				
	.34	.14	.09	.36	.07				
COMP.	ME	VZ	R	SP	O	S	E		
	.34	.29	.12	.08	.03	.07			

TEST 8 INSTRUMENT COMPREHENSION I									
GROUP									
EXPER.	P	V	O	S	E				
	.31	.16	.09	.12	.32				
WASP	P	V	N	VZ	S	E			
	.24	.11	.08	.14	.11	.32			
RESTR.	P	V	N	SP	O	S	E		
	.37	.08	.09	.16	.05	.23	.32		
COMP.	V	SP	R ₂	O	S	E			
	.05	.19	.12	.20	.12	.32			

TEST 9 INSTRUMENT COMPREHENSION II									
GROUP									
EXPER.	V	P	VZ	SP	O	S	E		
	.10	.13	.15	.05 .05	.32	.16			
WASP	V	P	VZ	N	O	S	E		
	.23	.10	.10	.07 .04	.24	.16			
RESTR.	P	SP	ME	O	S	E			
	.08	.25	.05	.15	.30	.16			
COMP.	V	VZ	SP	R ₂	O	S	E		
	.06 .06	.26	.13	.09	.32	.16			

TEST 10 GENERAL INFORMATION									
GROUP									
EXPER.	V	AI	ME	VZ	O	S	E		
	.22	.13	.07	.14	.03	.28	.13		
WASP	V	AI	O	S	E				
	.55	.16	.06	.10	.13				
RESTR.	V	ME	O	S	E				
	.18	.26	.19	.22	.13				
COMP.	(NOT REPORTED)								

TEST 11. MATHEMATICS A									
GROUP									
EXPER.	V	N	O	S	E				
	.21	.22	.05	.45	.07				
WASP	N	P	O	S	E				
	.61	.05 .04	.23	.07					
RESTR.	V	N	MB	O	S	E			
	.09	.31	.13	.08	.32	.07			
COMP.	V	N	MB	R	O	S	E		
	.14	.26	.14	.06 .04	.29	.07			

TEST 12. MATHEMATICS B									
GROUP									
EXPER.	V	N	O	S	E				
	.16	.30	.09	.25	.20				
WASP	V	N	O	S	E				
	.09	.62	.05 .04	.20					
RESTR.	V	N	O	S	E				
	.13	.34	.13	.20	.20				
COMP.	V	N	R	O	S	E			
	.08	.32	.16	.11	.13	.20			

FIG. I (continued)

FACTORIAL COMPOSITION OF TESTS COMPRISING THE AAF NOVEMBER 1943 CLASSIFICATION BATTERY

SYMBOLS:

V—Verbal

N—Number

P—Perceptual Speed

Vz—Visualization

AI—Aviation Interest

SP—Space

PM—Psychomotor Coordination

PM²—Psychomotor Precision

PM³—Psychomotor Speed

ME—Mechanical Experience

MB—Mathematics Background

M—Visual Memory

R—Reasoning

I—Integration

K—Kinaesthetic

O—Other

S—Specific

E—Error

TEST 13. ROTARY PURSUIT									
GROUP									
EXPER.	PM	O		S				E	
	.21	.07		.58				.08	
WASP	PM	O		S				E	
	.42	.05		.45				.08	
RESTR.	PM	SP	O		S			E	
	.16	.05	.17		.52			.08	
COMP.	PM	SP	O		S			E	
	.29	.26	.12		.23			.08	

TEST 14. TWO-HAND COORDINATION									
GROUP									
EXPER.	PM	ME	O	S'				E	
	.18	.29	.06	.30				.17	
WASP	PM	AI	PO		S			E	
	.28	.07	.05	.04	.39			.17	
RESTR.	PM	ME	SP	O		S		E	
	.13	.09	.19	.08		.36		.17	
COMP.	PM	ME	SP		SP	O		E	
	.12	.16	.17		.34	.04		.17	

TEST 15. COMPLEX COORDINATION									
GROUP									
EXPER.	F	FM	ME	SP	O		S		E
	.09	.19	.13	.10	.04		.36		.09
WASP	F	PM	VZ	V			S		E
	.09	.23	.07	.07	.02		.43		.09
RESTR.	P	PM	SP	O			S		E
	.05	.22	.21	.09			.34		.09
COMP.	P	PM	SP	O			S		E
	.04	.16	.24	.14			.33		.09

TEST 16. RUDDER CONTROL									
GROUP									
EXPER.	PM	AI	VZ	ME			S		E
	.13	.08	.12	.07			.54		.07
WASP	AI	O					S		E
	.22	.10					.61		.07
RESTR.	K	SP	N	O			S		E
	.26	.08	.05	.05			.49		.07
COMP.	PM	VZ	O				S		E
	.23	.07	.07				.56		.07

TEST 17. DISCRIMINATION REACTION TIME									
GROUP									
EXPER.	P	SP	PM	VZ	O		S		E
	.14	.13	.07	.05	.09		.44		.08
WASP	P	N	VZ	O			S		E
	.16	.06	.06	.08			.55		.08
RESTR.	P	SP	PM	O			S		E
	.08	.15	.06	.06			.59		.08
COMP.	P	SP	PM	O			S		E
	.05	.16	.12	.13			.44		.08

TEST 18. FINGER DEXTERITY									
GROUP									
EXPER.	PM	SP	O				S		E
	.19	.08	.08				.59		.08
WASP	PM	O					S		E
	.12	.08					.72		.08
RESTR.	PM	P	O				S		E
	.28	.05	.04				.57		.08
COMP.	PM	PM	O				S		E
	.12	.08	.07				.65		.08

FIG. I (continued)

factor. The total variance of each test is assumed to be 1.00. The difference between the reliability of a test and unity is interpreted as error variance; while the difference between the communality (common factor variance) and the reliability is interpreted as specific or unique variance. Figure I shows, for each test and for each group, the variance attributable to each of the factors and to error and specific causes.

The previous article reported factorial analyses for the three different samples. In the present variance charts a fourth estimate of test composition has been added and called "composite." This composite is an estimate derived from many factorial analyses of various batteries in which the present tests were included. (The factor loadings from which the variances were computed are reported in Guilford (2), Table 28.15). Because this composite is based on various analyses the factor loadings should be relatively stable. It should be pointed out that the groups on which the composite estimates are based were selected by a qualifying test and classification battery, and should be comparable to the group we have designated the Restricted group.

Test reliabilities were not available for the particular groups studied here. However, estimates of error variance were based on reliabilities reported in the composite, or were determined from a sample of 1000 men (comparable to the Restricted group.)¹ For purposes of comparison it was assumed that the reliabilities of the tests were the same for all groups. Since the reliabilities reported were determined for restricted groups they should be conservative estimates. Because reliabilities were not actually computed for each group, the line of demarcation between specific and error variance has been indicated by a dotted line on the variance charts.

The common factor variance of the biographical tests (tests 1 & 2) is relatively low. Much variance is attributable to "error." This may be interpreted as due to the fact that the reliability was based on internal consistency rather than on test-retest data. One should expect that the reliability of a test-retest would be almost perfect. Even so, the variance

¹ The estimates of reliability were split-half reliabilities corrected by the Spearman-Brown prophecy formula.

would be specific. The first test (Navigator score) seems primarily to be accounted for by aviation interest and numerical factors (number or mathematics background). For the second test (Pilot score) the two factors which account for most variance in various groups are aviation interest or mechanical experience factors.

The *Spatial Orientation Test* (test 3) shows a much more consistent picture. Over one-third of the total variance and over one-half of the common factor variance can be attributed to the same factor for all of the groups. Very little specific variance remains. Test 4 (*Spatial Orientation II*) shows a similar composition, but less variance is accounted for by the perceptual factor and a good deal more is specific for each of the groups.

Test 5 (*Reading Comprehension*) is primarily verbal, with number coming in to different extents for various groups. Test 6 (*Dial and Table Reading*) is primarily perceptual speed and numerical in nature—but a good deal of its variance is attributable to at least one other factor in each of the groups. Test 7 (*Mechanical Principles*) is of interest. Its variance can be attributed, in the main, to the mechanical experience factor and either space or visualization for the mens' samples. But for the WASP group no mechanical experience factor was isolated—and its variance is accounted for by the verbal factor. At the same time this test has by far the largest specific and the smallest common factor variance for the WASP group. Tests 8 and 9 (*Instrument Comprehension I & II*) are relatively complex factorially. Test 10 (*General Information*) seems primarily verbal and aviation interest or mechanical experience for the several groups. The mathematics tests (11 and 12) are predominantly accounted for by the number factor for all groups.

The most striking aspects of the psychomotor tests (tests 13–18) are the relative complexities and the great amounts of specificity. The “purest” of the psychomotor tests, by far, is the *Rotary Pursuit Test* (test 13).

These data contain several implications for test practice and suggest numerous hypotheses for further study. Analyses such as those just reported suggest that it is possible to construct

tests which are relatively pure and which measure consistently no matter to what kind of sample they are applied. Thus, the *Spatial Orientation Test* (test 3) is relatively pure from the standpoint that but one factor accounts for the major portion of its common factor variance. It is relatively consistent in its measurement of this factor from group to group. It would seem that in practice the attempt should be to develop tests with these two criteria in mind—that the tests be relatively pure or homogeneous, and that they be relatively consistent in their measurement from sample to sample.

Also suggested is the hypothesis that different tests may be measuring different functions in the various groups. This result does not seem too surprising. It seems entirely conceivable, for example, that a test involving simple addition of two digits might be primarily numerical in nature for children; but for a group of mathematicians, where these performances may be almost automatic due to practice, the test might be a function of perceptual speed. The implication of this for testing, of course, is that the factorial composition of tests should be determined for the various groups or levels of ability with which the tests will be used. But, as indicated above, an attempt should be made to find tests that do measure factors consistently in various groups.

In the mathematics tests, for example, the extent to which the tests measure the number factor differs somewhat. The WASP group, as indicated by their mean score, represented a higher level of ability than did the other two groups—and the tests seem to be more purely number for them. The WASP's also scored higher than did the other groups in the *Spatial Orientation Test* and the variance attributed to the perceptual speed factor is greatest for this group. It would seem, then, that the factor variance may in some way be related to the level of ability of the group, or possibly to the homogeneity of the group. With respect to the paper-and-pencil tests this is true to some extent, as the degree of specificity of a test is inversely related to the level of ability (as indicated by the mean scores). But for the apparatus tests (13-18) this is not true. Thus, the WASP's were a much more homogeneous sample and scored much higher on the *Rudder Control Tes*,

than did the men, but the common factor variance of this test is lowest for the WASP group. The relationship between level of ability, group homogeneity, and factorial variance remains an important one for further investigation.

The relatively small amounts of common factor variance in the apparatus tests is significant. Only one test (*Two-hand Coordination*, test 14) has all of its variance accounted for. This specificity is manifested even in the composite where 27 factors had been isolated in the various analyses. It seems doubtful that the apparatus tests are truly specific to this extent; but rather that there are many more factors common to these tests which remain to be isolated and identified. To determine the nature of these factors and to devise relatively pure tests for them is, therefore, an important area for further research.

Factorial Composition of the Criterion

Factors accounting for the variance of the pilot criterion for each group are shown in Figure II. It is evident that the criterion is relatively complex for all groups. The common factor variance of the criterion, however, is about the same for all groups; but it is very differently constituted for each of them. For the WASP group, which is probably the most homogeneous sample, it is accounted for by only four of the factors isolated. In the Experimental group, on the other hand, every factor isolated accounts for at least some small portion of the criterion variance. For the Restricted group numerous factors account for the criterion.

It seems reasonable that the relative importance of factors might change somewhat depending upon the previous selection of the group. Thus for a homogeneous group such as the WASP's different factors are important than for the unselected Experimental group. For the unselected group all factors are of at least some value in predicting the criterion. This is reflected also when beta weights are computed for the different tests to determine the multiple regression equation which predicts the criterion optimally. For the Experimental group no test has a significant negative weight. For the WASP group, on the other hand, significant negative weights are assumed by

the tests that have most variance accounted for by the numerical and psychomotor factors. This again has implications for test practice. A test battery of maximum predictive value could be developed *a priori* if the factorial composition of the tests and of the criterion were known. If relatively pure factor tests were available and the factorial composition of a criterion

FACTORIAL COMPOSITION OF THE PILOT CRITERION

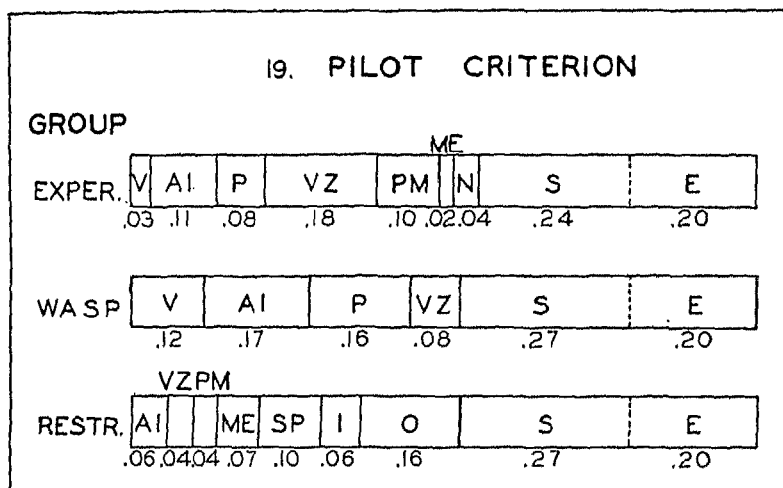


FIG. II

were known one could estimate fairly accurately the validity of the selective procedure without awaiting "validation data."

Summary and Conclusions

The factorial composition of tests included in the *AAF November 1943 Classification Battery* was examined for groups of subjects representing different selective conditions. The results are pertinent to test practice and contain suggestions for future research.

1. In different samples tests vary in (a) the consistency with which they measure different factors and, (b) the extent to which they are "loaded" with a given factor. There is some evidence that the tests which are purest are also the most con-

sistent. These results emphasize the importance of developing tests that are factorially pure, i.e., tests which measure a particular factor exclusively rather than a great number of factors. Previous investigations along factorial lines have yielded significant information as to the nature of factors. Eventually there should be no ambiguity as to the functions measured by different tests, and it would seem that efforts might well be directed toward constructing tests which will act as consistent measuring devices with known properties in various contexts.

2. Psychomotor tests on the whole seem to have a greater degree of specificity, i.e., lower common factor variance, than do paper-and-pencil tests. They also tend to be less pure than some of the paper-and-pencil tests. Important areas for further research are the isolation of further common factors which presumably will be found within what is now recorded as specific variance in apparatus tests, and the devising of relatively pure measures of these factors.

3. It was shown that the factorial description of the criterion varied from sample to sample. This result calls attention to the importance of considering the factorial composition of criteria in general, as well as of tests. A battery of tests validated for one group often does not retain the same validity when applied to another group, and it is apparent that knowledge of the factorial composition of tests and criteria should make more meaningful the relationships among them.

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SOME TRENDS IN THE DEVELOPMENT OF PSYCHOLOGICAL TESTS

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PSYCHOLOGICAL tests have become so numerous in recent years that it is difficult to keep informed about new tests or revisions of old tests. The problem is complicated by numerous sources of publication which are not adequately represented by any of the catalogues issued by distributors. The problem may not be as acute for centers which use tests for diagnosis and measurement, as for those which attempt to provide instructional service for graduate students in departments of psychology or in schools of education.

The Cornell University Testing Service, in conjunction with the Bureau of Educational Research and Service of the School of Education, began in January, 1947, to set up a test library which could be used both for instructional purposes and for actual testing in connection with the personnel services of the University. A very thorough search of all available catalogues, and a continuous search for tests which are not readily found through catalogues but which are available for use, has resulted in the establishment of a library, some of whose features may be of interest to others.

Since test publishers and distributors are not uniform in their test categories, the first requirement was the development of a classification system into which all sorts of tests could be fitted. A decimal system of numbering was used to allow for indefinite expansion throughout the system. In September, 1948, a complete index for the library was mimeographed for use on the campus. It contains 1080 tests, practically all of which are now available on the market. These tests are published by 74 publishers, who are listed at the end of the index. Each test is coded to show who publishes it, so the psychometrist can locate it quickly in a catalogue, or place an order without having to hunt up the test or find a listing in a catalogue, although publishers do not always distribute their own tests.

The extent of the index may be visualized by the fact that it fills 28 pages of eight by ten paper, with single-spaced entries, one line to each test. Following is an outline of the index, showing the number of tests available in each of the various categories.

OUTLINE OF TEST LIST

A. Achievement Tests

1. General	
1.1 Grades 1-9	36
1.2 High Schools and Colleges	13
2. Reading	
2.1 Grades 1-12	90
2.2 High Schools and Colleges	17
3. Mathematics	
3.1 Diagnostic Tests in Arithmetic	23
3.2 General Achievement Tests in Arithmetic	33
3.3 General Achievement Tests in Mathematics	13
3.4 Plane Geometry	15
3.5 Solid Geometry	5
3.6 Trigonometry	4
3.7 Analytical Geometry	1
3.8 Industrial Mathematics	2
3.9 Elementary Algebra	18
3.10 Intermediate Algebra	2
3.11 Advanced Algebra	1
3.12 Calculus	2
4. Science	
4.1 General	18
4.2 Zoology	1
4.3 Chemistry	18
4.4 Biology	10
4.5 Physics	12
4.6 Geology	2
4.7 Botany	1
4.8 Astronomy	1
4.9 Meteorology	1
4.10 Agriculture	2
5. Languages	
5.0 General Languages	2
5.1 Latin	19
5.2 Spanish	12
5.3 Italian	3
5.4 German	9
5.5 French	20
6. English	
6.1 Grades 1-12	47
6.2 High Schools and Colleges	35
7. Spelling	23
8. Vocabulary	20
9. Grammar	3

10. History	
10.1 General	1
10.2 American	21
10.3 Modern European	4
10.4 Ancient	4
10.5 World	5
11. Social Studies	37
12. Geography	10
13. Handwriting	13
14. Health	13
15. Home Economics	12
16. Aeronautics	4
17. Commerce	33
18. Library Information	4
19. Psychology	3
20. Engineering	16
21. Journalism	1
22. Automobile Driving	1
B. Attitudes	
C. Aptitudes	
0. General Battery	2
1. Practical Judgment	7
2. Science	3
3. Mechanical	
3.1 Pen and Paper	25
3.2 Manual	8
4. Clerical	14
5. Sales	3
6. Stenography and Typing	3
7. Visual Tests	2
8. Art	6
9. Music	11
10. Nursing	6
11. Supervisory	1
12. Vocational	2
13. Medicine	1
14. Educational	8
15. Law	1
16. Religion	1
D. Intelligence	
1. General Mental Ability	96
2. Primary Mental Ability	5
E. Interests	
1. General	4
2. Vocational	17
3. Academic	2
F. Personality and Adjustment	60
G. Values	7
H. Rating Scales	10
I. Personal Selection	
1. College	7
2. General	

(See specific areas)

J. Critical Thinking	7
K. Pre-school Readiness Tests	23
L. Study Skills	5
M. Status Information	7
N. Concepts	1

For instructional purposes, a complete specimen set of each test is sufficient in most cases, although it is often desirable to put copies of a test in the hands of each member of a class when the test is being analyzed. That is ordinarily possible, however, for the tests which are usually studied most carefully at Cornell are those which are also being used in the personnel services, with few exceptions. To allow sufficient scope for such individual testing as is required in a full personnel service, where personal, educational, and vocational counseling are involved, it has been found helpful at Cornell to maintain some 159 of these tests in fairly generous quantities. To assist counselors on the campus, those tests are starred in the index which is furnished them. Some of the needs which give rise to this rather sizable stock of active tests arise from diagnostic services extended by the Bureau of Educational Research and Service to public schools and to private individuals, from research programs in the School of Education, and from the University's annual Freshman testing program in September.

To one interested in trends in test development the frequencies shown in the outline are significant. The great bulk of tests are for measuring achievement, with greatest numerical strength in the field of reading. English is well served. Mathematics is well served in the grades below the twelfth, but not above that point. There is a large supply of general intelligence tests of the paper and pencil type, for group administration. The field of personality measurement is also numerically well supplied. Among aptitude tests, mechanical, clerical and musical tests are far more plentiful than most of the others.

Obviously this report does not deal with the quality of the tests listed. Anyone familiar with Burows' *Yearbooks* will appreciate the problems involved in criticism. Nevertheless the picture presented here may be helpful to those interested in psychometrics, as an indication of the scope and trends of the area.

A NOTE ON THE CORRELATION BETWEEN A CONTINUOUS VARIATE AND A DISCRETE DISTRIBUTION

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IN psychometric data sometimes one desires to know the correlation between a quantitative continuous variate and a discrete series. The former may be, say, a system of personality inventory scores and the latter, the number of children of each of a group of families. The discrete series is of such nature that its values can take only whole numbers. In such cases it seems best to assume a Poisson series rather than a Gauss series. A review of the available statistical textbooks, however, does not disclose an appropriate method to treat such a correlation. It seems thus desirable to derive some formulae corrected for the Poissonian assumption. Let the following equation represent a Poisson variance:

$$\sigma_p^2 = M_p \quad (1)$$

Each measure of the distributions may be conceived of as a deviate from an ideal score, or the mean. Then the difference between the two deviates may be indicated as

$$d_{q-p} = d_q - d_p$$

Squaring the above equation, summing for all measures and dividing by the number of samples, we get

$$\sigma_{q-p}^2 = \sigma_q^2 - 2r_{qp}\sigma_q\sigma_p + \sigma_p^2$$

By the aid of (1), we may write the correlation between the quantitative variate and the discrete distribution as follows:

$$r_{qp} = \frac{\sigma_q^2 + M_p - \sigma_{q-p}^2}{2\sigma_q M_p^{\frac{1}{2}}} \quad (2)$$

where M_p stands for mean of the discrete series. It should be noted that this formula is correct only when linearity can be

assumed in the correlation. For a non-linear function, the correlation does not seem to admit a direct solution. If one can reasonably assume the homoscedasticity in the data, one may use the following formula for the columnar variance:

$$\sigma_c^2 = M_p - M_p r_{qp}^2$$

Transposing and using the average σ_c 's as a compromise to the demand of strict homoscedasticity, one may write the following equation approximating to n :

$$\eta_{pq} = \sqrt{1 - \frac{\frac{\sum \sigma_c^2}{n}}{M_p}} \quad (3)$$

Great precaution should be taken when equation (3) is used. It is of extreme importance that the distribution is proven to be Poissoinean, by testing the following expectancy:

$$e^{-m} \left(1, \frac{m^2}{2!}, \dots, \frac{m^x}{x!}, \dots \right)$$

If such test as chi-squares confirms the agreement between the observed and expected values, then equation (3) perhaps can be very serviceable for obtaining the correlation from data of such nature.

NEW TESTS*

Aptitude Test for Elementary School Teachers, by Henry Bowers.

This test is designed to determine points of view with regard to a number of situations: opinions, books, occupations, interests, and judgment. It also contains a performance test which is essentially a concealed interview in which the examiner rates the student on several personal qualities. Range: elementary-school teacher trainees. No time limit. Price: Teachers' Manual and package of 25 tests, \$3.50. Published by J. M. Dent and Sons (Canada), Limited, Toronto, Ont.

Army General Classification Test (Civilian Edition). Three types of problems are presented: vocabulary, arithmetic word problems and block counting. Range: high school, college and adult. Working time: 40 minutes. Price: Form AH, hand-scored: reusable test booklets with answer pad, each 48¢; answer pads, package of 25, \$1.65. Form AM, machine-scored: reusable test booklets, each 38¢; answer sheets, package of 100, \$2.90. Published by Science Research Associates.

Cooperative Achievement Tests, 1948, Form Y. Two prices are given after the description of each of the following tests. The first is the price of 25 test booklets; the second is the price of 25 answer sheets.

Elementary Algebra Test (Revised Series), by Robert S. Lankton, et al. Designed to test the basic skills and principles included in the typical elementary algebra course (extending through quadratics). Range: high-school classes in elementary algebra. Working time: 40 minutes. \$2.25; 80¢.

Intermediate Algebra Test (Revised Series), by M. Isobel Blyth, et al. Covers the materials included in the typical second course in algebra (quadratics and beyond). Range: high-school classes in intermediate algebra. Working time: 40 minutes. \$2.25; 80¢.

American Government Test (Revised Series), by John Haefner. Graphic and verbal material for the purpose of measuring understanding of concepts developed in courses. Range: high-school classes. Working time: 40 minutes. \$2.50, 80¢

* Addresses of the publishers of the tests listed are given at the end of the section. The prices given are for the smallest package listed by the publishers. In some instances, certain details are not included because they were not available at the time of going to press.

EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT

American History Test (Revised Series), by Harry D. Berg. Designed for measurement of understanding and information of materials presented in secondary-school or elementary-college courses in American History. Range: high-school and elementary-college courses in American history. Working time: 40 minutes. \$2.25, 80¢.

Biology Test (Revised Series), by Paul E. Kambly, *et al.* Intended primarily to investigate student's factual knowledge. Range: high-school classes in biology. Working time: 40 minutes. \$2.50, 80¢.

Chemistry Test (Revised Series), by Joseph F. Castka, *et al.* Planned to test fundamental facts and principles. Range: high-school classes in chemistry. Working time: 40 minutes. \$2.25, 80¢.

General Chemistry Test, (Form 1948), by Cooperative Test Service and The American Chemical Society. Covers general knowledge and information in the field, application of principles, scientific method, and laboratory technique. Range: elementary-college chemistry classes. Working time: 110 minutes. \$2.50, 80¢.

Chemistry Test In Qualitative Analysis (Form Y), by Cooperative Test Service and The American Chemical Society. Topics covered are (1) application of the laws of solution; (2) equations of typical analytical reactions; (3) numerical problems dealing with solubility product, ionization constant, pH and common-ion effect. Range: college classes in qualitative analysis. Working time: 60 minutes. \$2.00, 80¢.

Chemistry Test in Quantitative Analysis, by Cooperative Test Service and The American Chemical Society. Covers "theoretical principles . . . in volumetric or gravimetric procedures in an elementary course . . ." Range: college classes in quantitative analysis. Working time: 110 minutes. \$2.50, 80¢.

Organic Chemistry Test (Revised, 1948), by Cooperative Test Service and The American Chemical Society. Intended to provide a measure of achievement for use in college classes in organic chemistry. Range: college classes in organic chemistry. Working time: 100 minutes. \$2.50, 80¢.

Contemporary Affairs for College Students, (Form 1948), by E. F. Lindquist, Robert L. Ebel, John Haefner, Wendell Smith, *et al.* Three parts: public Affairs; sciences and medicine; literature and fine arts. Range: college classes. Working time: 80 minutes. \$2.50, 80¢.

Modern European History Test (Revised Series), by Frederick I. Stutz, *et al.* The questions call for information and understanding of material from beginning of Renaissance to the present.

Range: high-school and college classes. Working time: two hours. \$2.50, 80¢.

Foods and Nutrition, by Cooperative Test Service and the Evaluation Committee of the American Home Economics Association. A test designed to measure pre-professional information, knowledge of methods and operations in areas relating to home economics and nutrition. Range: pre-professional college classes. Working time: 80 minutes. \$2.50, 90¢.

General Achievement Tests (Revised Series):

Mathematics, by Bernice Orshansky, *et al.*

Social Studies, by Elaine Forsyth, *et al.*

Natural Sciences, by Carl A. Pearson, *et al.*

Three separate tests. Each test consists of two parts: terms and concepts, and comprehension and interpretation. Range: Grades 10 through 12 and entering college freshmen. Working time: 40 minutes (each test). \$2.50, 80¢ (each test).

Plane Geometry Test (Revised Series), by H. Vernon Price, *et al.* Designed to measure the fundamentals of a first course in geometry. Range: high-school classes in plane geometry. Working time: 40 minutes. \$2.25, 80¢.

Latin Test (Lower Level), by Harold V. King. Three parts: comprehension, grammar, and civilization. Range: students in the first two years of high school or the first year of college Latin. Working time: 80 minutes. \$2.50, 90¢.

Latin Test (Higher Level), by Harold V. King. Three parts: comprehension, grammar, and civilization. Range: students with more than two years high-school Latin, or more than one year college. Working time: 80 minutes. \$2.50, 90¢.

Mathematics Test for Grades 7, 8, 9, by Bernice Orshansky, *et al.* Four parts labeled: Skills; Facts, Terms, and Concepts; Applications; and Appreciation are included. Range: Grades 7, 8, 9. Working time: 80 minutes. \$2.50, 80¢.

Mathematics Pre-Test for College Students, by the Committee on Tests of the Mathematical Association of America, *et al.* Intended to offer a sampling of high-school mathematics abilities. Range: Pre-test for beginning college mathematics courses. Working time: 40 minutes. \$2.00, 80¢.

Physics Test (Revised Series), by Paul J. Burke, *et al.* An achievement test for a secondary-school physics course. Range: high-school classes in physics. Working time: 40 minutes. \$2.25, 80¢.

Test On Recent Social and Scientific Developments (Form 1948), by E. F. Lindquist, Robert L. Ebel, John Haefner, Wendell Smith, *et al.* The test is "Designed to measure the degree to

American History Test (Revised Series), by Harry D. Berg. Designed for measurement of understanding and information of materials presented in secondary-school or elementary-college courses in American History. Range: high-school and elementary-college courses in American history. Working time: 40 minutes. \$2.25, 80¢.

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Test On Recent Social and Scientific Developments (Form 1948), by E. F. Lindquist, Robert L. Ebel, John Haefner, Wendell Smith, *et al.* The test is "Designed to measure the degree to

which the student is making sound, and critical observations about recent changes and developments in our contemporary civilization, and how well he recognizes their underlying significance." Range: Grades 9 through 12. Working time: 80 minutes. Price: 10¢ per pupil (including booklet and answer sheet). Minimum order \$5.00. Specimen set 10¢.

Science Test for Grades 7, 8, 9, by Paul E. Kambly, *et al.* Knowledge of principles and functioning of common mechanical devices as well as natural phenomena is called for here. Range: Grades 7, 8, 9. Working time: 80 minutes. \$2.50, 80¢.

General Science Test (Revised Series), by Paul E. Kambly, *et al.* Directed at the measurement of information and understanding. Range: high-school classes in general science. Working time: 40 minutes. \$2.25, 80¢.

Social Studies Test for Grades 7, 8, 9, by Eunice Ann Lloyd, *et al.* Content includes items relating to economic, social, physical and historical factors in the development of the American nation. Range: Grades 7, 8, 9. Working time: 80 minutes. \$2.50, 80¢.

Spanish Test (Lower Level), by William H. Shoemaker and Geraldine Spaulding, *et al.* Three parts: comprehension, grammar and civilization. Range: students in the first two years of high school or the first year of college Spanish. Working time: 80 minutes. \$2.50, 90¢.

Spanish Test (Higher Level), by William H. Shoemaker and Geraldine Spaulding, *et al.* Three parts: comprehension, grammar, and civilization. Range: students with more than two years of Spanish in high school or more than one year in college. Working time: 80 minutes. \$2.50, 90¢.

Test in Textiles and Clothing, by the Cooperative Test Service and the Evaluation Committee of the American Home Economics Association. Covers materials generally taught in college classes preceding professional work, such as garment construction, care and repair of clothing, selection and use of equipment. Range: pre-professional college classes. Working time: 90 minutes. \$2.50, 90¢.

Plane Trigonometry Test (Revised Series), by John A. Long and L. P. Siceloff, *et al.* Range: high-school and college classes in plane trigonometry. Working time: 40 minutes. \$2.25, 80¢.

Vocabulary Test, by Jeanne M. Bradford, Herbert Danzer, Geraldine Spaulding, *et al.* Comprises 210 multiple-choice items arranged in 7 repeating scales of equal difficulty. Range: Grades 7 through 12 and college classes. Working time: 30 minutes is suggested. \$2.25, 90¢.

World History Test (Revised Series), by William Taylor, *et al.* "This test covers the entire period from prehistoric times up

through the present." Range: high-school classes in world history. Working time: 40 minutes. \$2.25, 80¢.

English Tests:

Mechanics of Expression, by Geraldine Spaulding and W. W. Cook, *et al.* An English test designed to cover usage, punctuation, capitalization, and spelling. Range: Grades 7 through 12 and college classes. Working time: 40 minutes. \$2.25; 80¢.

Effectiveness of Expression (Higher Level), by Janet Afflerbach, Miriam M. Bryan, and Geraldine Spaulding, *et al.* A measure of effective use of English, including sentence structure, and style; active vocabulary; and organization. Range: superior eleventh- and twelfth-grade students and college students. Working time: 40 minutes. \$2.25, 80¢.

Effectiveness of Expression (Lower Level), by Janet Afflerbach, Miriam M. Bryan, Geraldine Spaulding, *et al.* Measures effective use of English including sentence structure and style, active vocabulary, and organization. Range: Grades 7 through 12, college classes. Working time: 40 minutes. \$2.25, 80¢.

Reading Comprehension Test (Higher Level), by Frederick B. Davis, Clarence Derrick, Jeanne M. Bradford, Geraldine Spaulding, *et al.* Covers recognition vocabulary, and reading; speed and level of comprehension. Range: superior eleventh- and twelfth-grade students; college students. Working time: 40 minutes. \$2.50, 80¢.

Reading Comprehension Test (Lower Level), by Frederick B. Davis, Clarence Derrick, Harry R. Neville, Jeanne M. Bradford, Geraldine Spaulding, *et al.* Covers recognition vocabulary, and reading; speed and level of comprehension. Range: Grades 7 through 12. Working time: 40 minutes. \$2.50, 80¢.

Reading Comprehension and Effectiveness of Expression and Mechanics of Expression Tests are published in a single booklet edition for both the higher and lower level. \$3.90, \$1.70.

American Council on Education Psychological Examination for High School Students, 1948 Edition, by L. L. Thurstone and Thelma Gwinn Thurstone. Price: Test booklets, per package of 25, \$2.50. Answer sheets, per package of 25, 90¢.

American Council on Education Psychological Examination for College Freshmen, 1948 Edition, by L. L. Thurstone and Thelma Gwinn Thurstone. Price: Test booklets, per package of 25, \$2.50. Answer sheets, per package of 25, 90¢.

Design Judgment Test, by Maitland Graves. A self-administering test devised to measure certain components of aptitude for the appreciation of production of art students. Working Time:

20 to 30 minutes (no time limit). Hand or machine scored. Published by The Psychological Corporation.

Diagnostic Reading Tests, by Committee on Diagnostic Reading Tests. This battery has been developed to ascertain reading skills from Grade 7 through first-year college. Currently available in addition to tests listed in the 1948 "New Tests" section:

Survey Section, Form A, including tests of rate of reading, vocabulary and comprehension. Working time: 40 minutes. 15¢ per booklet; answer sheets, 2¢ each; specimen set and accessories, 35¢.

Section IV, Word Attack, Form A and B. Part 1—Oral: 18¢ per booklet and answer sheets. Booklet may be reused. Part 2—Silent: 12¢ per booklet; answer sheets, 2¢ each. Published by the Committee on Diagnostic Reading Tests.

Factored Aptitude Series of Business and Industrial Tests, by Dr. Joseph E. King. Consists of fourteen tests which have been developed to provide programs of aptitude measurement. Price per package of 50 individual tests is \$3.75 (including handbook and answer stencil). Individual tests are described as follows: *Office Terms Test*, *Mechanical Terms Test*, *Sales Terms Test*, *Scientific Terms Test*, and *Tools Test* all are designed to measure comprehension factor plus interest in the specific field. *Judgment Test* and *Differences Test* measure reasoning factor, ability to deal with relationships, solve problems, etc. *Numbers Test* measures number factor, ability to deal with symbol system, etc. *Perception Test* and *Precision Test* measure Perception factor, ability to scan and locate details quickly. *Fluency Test* measures flow or use of words with ease. *Memory Test* measures ability to recognize and recall associations. *Dimension Test* measures ability to deal with sizes, shapes and relations of objects in two and three dimensions. *Motor Test* measures coordination. (Motor testing equipment is priced at \$15.00) *Test Programs* (combinations of tests for the job families): *Clerical* (Perception, Office Terms, Numbers); *Sales* (Sales Terms, Fluency, Memory); *Scientific-Technical* (Judgment, Office Terms, Numbers). Each of the above Programs are priced at \$10.00 per package of 50 programs. *Mechanical* (Dimensions, Tools, Precision, Motor); *Office Adm-Supervisory* (Judgment, Office Terms, Perception, Fluency); *Factory Adm-Supervisory* (Differences, Mechanical Terms, Precision, Dimensions). Each of the three above Programs are priced at \$13.00 per package of 50 programs. Published by Industrial Psychology.

How Supervise? Forms A, B, and M, by Quentin W. File and H. H. Remmers, 1948. A measure of the knowledge and insight of supervisors in industry. Hand-scored. Price: package of 25 tests, \$1.75. Published by the Psychological Corporation.

Illinois Inventory of Pupil Opinion, by Harold C. Hand, Gilbert C. Finlay and Ardwin J. Dolio, 1948. For Grades 7-12. An unsigned point scale questionnaire which reflects pupils' opinions of teaching methods, personnel and other factors related to their school environment. Available in sets of 25. Price: \$1.30 per package of 25 test booklets. Handbook, *What People Think about their Schools*, \$2.52. Published by The World Book Company.

Illinois Inventory of Parent Opinion, by Harold C. Hand, Gilbert C. Finlay and Ardwin J. Dolio, 1948. An unsigned point-scale questionnaire which reflects parents' opinions of the factors in the school environment which affect their children. Price: \$1.60 per package of 25 test booklets. Handbook, \$2.52. Published by The World Book Company.

Iowa Language Abilities Test, Forms A, B, and C, by H. A. Greene and H. L. Ballenger, 1948. The elementary test consists of five parts: spelling, word meaning, language usage, capitalization, and punctuation for grade range 4-7. The intermediate test is a seven-part test including five subtests in the areas listed above plus grammatical form recognition and sentence sense for grade range 7-10. Hand-scoring stencils for both levels. Working time for each level: 45-50 minutes. Also available as Forms Am, Bm, and Cm with machine-scored answer sheets. Price per package of 25: Form A (elementary), \$1.80, Form A (intermediate), \$2.40. Form Am (elementary), \$2.30, Form Am (intermediate), \$2.80. Published by The World Book Company.

Iowa Silent Reading Tests, New Edition Elementary Tests: Forms Cm and Dm, by H. A. Greene and V. H. Kelley, 1948. The six subtests are comprehension, directed reading, word meaning, paragraph comprehension, sentence meaning, and location of information. Grade range, 4-8. Time: one hour. Hand or machine-scored. Price: \$1.70 per package of 25. Published by The World Book Company.

Kuder Preference Record—Personal, (Form A), by G. Frederic Kuder. Consists of a new series of preference scales intended as a supplement to the *Kuder Preference Record—Vocational*. This test measures preferences in five general areas of interest and personality. Scales are: (A) preference for taking the lead and being in the center of activities involving people; (B) preference for dealing with practical problems and everyday affairs rather than interest in imaginary or glamorous activities; (C) preference for thinking, philosophizing, and speculating; (D) preference for pleasant and smooth personal relations which are free from conflict; (E) preference for activities involving the use of authority and power. Range: high school, college, adult. Working

time: about 40 minutes (no time limit). Prices: Form AH, hand-scored: reusable record booklet with answer pad, each 48¢; answer pads, package of 25, \$2.00. Form AM, machine-scored: reusable record booklet, each 38¢; answer sheets, package of 100, \$2.90. Profile sheets, package of 25, 50¢. Published by Science Research Associates.

Kuder Preference Record—Vocational (Form B1—short form), by G. Frederic Kuder. This form has been developed for use in industrial situations where it is not practical to give the longer form (BB). It is designed to measure nine fundamental areas of educational and vocational interest: mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, and clerical. Range: high school, college, adult. Working time: approximately one-half hour. Prices: Form BIH, hand-scored: reusable record booklet with answer pad, each 48¢; answer pads, package of 25, \$2.00. Form BIM, machine-scored: reusable record booklet, each 38¢; answer sheets, package of 100, \$2.90. Profile sheets, package of 25, 50¢. Published by Science Research Associates.

Kuder Preference Record—Vocational (Form C—eleven scale), by G. Frederic Kuder. Designed to yield two new scores in addition to those obtained on Form B. One of these, Scale O, is the outdoor scale, which measures expressed preferences for outdoor, naturalistic, and agricultural activities. The other, Scale V, is a Verification Scale intended to help identify those who have not followed directions or who have answered carelessly. The occupational areas in which scores are now obtainable are as follows: outdoor, mechanical, computational, scientific, persuasive, artistic, literary, musical, social service, clerical, and the eleventh scale—the verification score. Range: high school, college, adult. Working time: about 40 minutes (no time limit). Prices: Form CH, hand-scored; reusable record booklet with answer pad, each 48¢; answer pads, package of 25, \$2.00. Form CM, machine-scored, reusable record booklet, each 38¢; answer sheets, package of 100, \$2.90. Profile sheets, package of 25, 50¢. Published by Science Research Associates.

Metropolitan Achievement Tests, Forms R, S, T, and U, 1948, by Gertrude H. Hildreth, Richard D. Allen, *et al.* Batteries for five levels.

Primary I Battery: For Grade 1. Four subtests are Reading—Word Pictures; Reading—Word Recognition; Reading—Word Meaning; and Numbers. Working time: 45 minutes. Price: \$1.65 per package of 25.

Primary II Battery: For Grade 2. Five subtests are Reading, Word Meaning, Arithmetic Fundamentals, Arithmetic Prob-

lems, and Spelling. Working time: 85 minutes. Price: \$1.85 per package of 25.

Elementary Battery: For Grades 3 and 4. Six subtests are Reading, Vocabulary, Arithmetic Fundamentals, Arithmetic Problems, Language Usage, and Spelling. Working time: 135 minutes. Price \$2.45 per package of 25.

Intermediate Battery: For Grades 5, 6, and beginning 7. Ten subtests are Reading; Vocabulary; Arithmetic Fundamentals; Arithmetic Problems; English; Literature; Social Studies: History and Civics; Social Studies: Geography; Science; and Spelling. Time: four sittings of 45, 85, 45, and 65 minutes. Price: \$2.75 per package of 25.

Advanced Battery: For Grades 7, 8, and beginning 9. Subtests as listed for Intermediate Battery. Time: four sittings of 45, 85, 55, and 65 minutes. Price \$2.75 per package of 25. Published by The World Book Company.

Minnesota Paper Form Board Test, Revised, Series AA, BB, MA, and MB, by R. Likert and William H. Quasha. Measure of ability to perceive spatial relations. Hand-scored (all forms) or machine-scored (form MA and MB). Time limit: 20 minutes. In the revision, directions and scoring are simplified, alternate series are equivalent, practice problems are added and the problems are arranged in order of difficulty. Price: \$2.00 per package of 25. Published by The Psychological Corporation.

Peters Biblical Knowledge Test, 1948, by Frank C. Peters. Two tests of 150 objective items each for the Old and for the New Testament. Working time for each test: 60 minutes. Range: high school, college, adult. Published by Bureau of Educational Measurements.

S.R.A. Mechanical Aptitudes, by the staff of Richardson, Bellows, Henry and Company, Inc. Three types of problems are included: tool usage, space visualization, and shop arithmetic. Range: high school to adult. Working time: 35 minutes. Price: Reusable test booklets with answer pad, each 48¢; answer pads, package of 25, \$1.75. Profile sheets, package of 25, 50¢. Published by Science Research Associates.

S.R.A. Primary Mental Abilities (Primary), by L. L. Thurstone and Thelma Gwinn Thurstone. Scores are obtained in the following areas: verbal-meaning, quantitative, space, perceptual-speed, motor. Range: kindergarten and first grade. Working time: One hour. Price: Test booklets, package of 25, \$2.65. Published by Science Research Associates.

S.R.A. Primary Mental Abilities (Elementary), by L. L. Thurstone and Thelma Gwinn Thurstone. Scores are obtained for five

primary mental abilities: verbal-meaning, space, reasoning, perception, and number. Range: Ages 7 to 11. Working time: One hour. Price: reusable test booklets with answer pad, each 48¢; answer pads, package of 25, \$1.75; profile sheets, package of 25, 50¢. Published by Science Research Associates.

Thorndike-Lorge Reading Test (Forms A & B Revised), by E. L. Thorndike and Irving Lorge. This is a general test planned to include all the important factors in silent reading and to give reasonable weight to each of them. Range: Grade 7 to 9. Working time: 40 minutes. Published by Bureau of Publications, Teachers College, Columbia Univ.

Thurstone Test of Mental Alertness, by L. L. Thurstone and Thelma Gwinn Thurstone. This test is a short form adaptation of *The American Council on Education Psychological Examination* for high-school students. Four types of problems are included: same-opposites, definitions, number series, and arithmetic reasoning. Range: high school and adult. Working time: 20 minutes. Price: Form AH, hand-scored: test booklets, package of 25, \$1.85; scoring folders, set 60¢. Form AM, machine-scored: Test booklets, package of 25, \$3.00; scoring keys, set \$2.00. Published by Science Research Associates.

Wechsler Memory Scale Form II, 1948, by Calvin P. Stone and David Wechsler. A six-part test devised as an alternate form to the older *Wechsler Memory Scale*. Price: 50 record forms with set of test cards, \$1.75. Published by The Psychological Corporation.

Your Activities and Attitudes, by Ernest W. Burgess, Ruth S. Cavan, and Robert J. Havighurst. This questionnaire is designed for the study of the personal adjustment of older adults. "Two inventories are included. The *Adult Attitude Inventory* measures the extent to which the older person finds personal satisfaction through his social contacts. The *Adult Activities Inventory* measures the degree to which he is able to participate in the activities typical of older adults." Range: adults in later maturity. No time limit. Price: test booklets, package of 25, \$2.75. Published by Science Research Associates.

ADDRESSES OF THE PUBLISHERS AND DISTRIBUTORS OF THE TESTS LISTED

Bureau Of Educational Measurements, Kansas State Teachers College, Emporia, Kansas.

Bureau of Publications, Teachers College, Columbia University, New York, New York.

Committee on Diagnostic Reading Tests, Kingscote Apartment 3G, 419 West 119th Street, New York 27, New York.

Cooperative Test Service of the American Council on Education,
15 Amsterdam Avenue, New York 23, New York.

Educational Records Bureau, 437 West 59th Street, New York 19,
New York.

Industrial Psychology, 105 West Adams Street, Chicago 3, Ill.

J. M. Dent and Sons (Canada), Limited, Toronto, Ontario.

Psychological Corporation, 522 Fifth Avenue, New York 18, New
York.

Science Research Associates, 228 South Wabash Avenue, Chicago 4,
Illinois.

World Book Company, Yonkers-on-the-Hudson, New York.

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TECHNIQUES OF SALESMAN SELECTION

RICHARD WELLINGTON HUSBAND

Iowa State College

"How can we select good salesmen?"—a question frequently asked by those who direct marketing and merchandising, should be answered by the psychologist.

This reviewer's interest in the selection of salesmen is of long standing, and stems from both practical and academic sources.

(1) Having done sales work, it is logical that he should be interested in applying psychological principles to that field, including the employment of sales personnel.

(2) One who is experienced in selling—or for that matter, every discerning customer—cannot help noticing the poor quality of salesmanship often evident. This may be due partly, if not principally, to the fact that people may go into selling temporarily as a stop-gap between two more desired jobs—meaning, in turn, that sales selection is often rather casual and haphazard. The employer may assume superficially that the only loss in such poor selection is low commission earnings on the part of the temporary salesperson, overlooking the failure to meet overhead, the reduction of profits, and the loss of good will which the inept salesman may have incurred, and which will handicap his successor in re-establishing good will. This is especially pronounced where a traveling representative has a definite territory and fails to do his product justice within that area.

(3) A review of recent literature discloses that there are many fair or good studies on the selection of salesmen, yet techniques vary so widely that some interpretation and synthesis seem desirable.

This review, accordingly, summarizes and evaluates methods used to employ different types of salesmen, with constructive recommendations. We shall deal principally with studies published from 1935 to the present time, mentioning only one or

two of major pioneering importance prior to that date. Needless to say, we are discussing only those articles which appear to have some scientific merit, and are not including publications which appear to be highly opinionative, or which are dependent on some one individual's "hunch" or "system."

Principal Techniques

Four major techniques, or perhaps better stated as groups of techniques, have been used.

1. *Test Data.* Correlating sales success with scores on personality, interest, intelligence, and sales aptitude tests.

2. *Interview.* Virtually all selection involves the personal interview, but if attempts are made to improve its validity it must be partially standardized.

3. *Clinical Analysis, or Ratings.* Studying in detail the qualitative characteristics of superior salesmen, with perhaps a contrast between mediocre and poor salesmen. This is somewhat more functional than Method Number 4, taking into account, for example, personality and health factors.

4. *Personal History.* Utilizing information collected on the application blank, or equivalent data about one's personal background. Age, family status, insurance carried, selling experience, are commonly included.

Naturally, some studies have employed two or even more of these procedures. Some have used techniques not submitted to statistical analysis, or only to cursory analysis, while others have derived rather intricate weighting schemes for their data which ultimately produce a single figure subsequently worked into a critical score.

Criteria of Success

Before we can attempt to predict success, we must, of course, define what constitutes successful selling. Fortunately this field has several possible statistical criteria. Gross volume of sales is the major and most obvious of these; several supplementary ones are the number of customers waited on, the calls per day, new accounts opened up, the amount of returned goods, or the amount of more expensive merchandise sold. These latter may be of greater or lesser importance in special

instances. For example, large volume accompanied by rather heavy returns may indicate unsound selling methods, and produce poor future or long-time customer relationships.

Ohmann (20) studied various criteria and found that the number of calls per day correlates negatively with all other measures of successful selling. Carelessness was suggested; the more thorough salesman calls on fewer people or waits on fewer customers but ends up with larger commissions. Veteran salesmen tend to open up few new accounts. Early sales volume, during the first six months on the job, failed to correlate with subsequent performance; hence one should not jump to conclusions on the basis of early efforts.

Job analysis may assist in determining which of the possible criteria is most pertinent to a given selling task. This is especially true when a supervisor's rating is used as the criterion of success. Such rating should be given in terms of clearly specified duties. One company rated its salesmen, among other things, in terms of whether they helped the merchants with merchandising problems and show windows, and whether their men built up intangible good will for their company by participating in community enterprises such as charity drives (2). They did not state, however, whether they hired their salesmen with the understanding that these functions were considered part of their duties, or whether they attempted to estimate their potentiality in these lines while employing them.

We do not need to justify job analysis: this has become a standard personnel procedure. In this instance we are emphasizing its indispensability for validating the procedures used to employ salesmen.

Method I. Tests

In quite a number of studies on sales selection various sorts of psychological tests have been employed. These may be divided into the following groups:

- (1) Various personality tests, including the *Bernreuter Personality Inventory*
- (2) Interest, almost exclusively the Strong
- (3) Intelligence, usually in conjunction with other tests

Specially designed tests to predict sales potentiality, notably the Klein Institute and the Life Insurance Agency Management Association batteries, are also discussed.

(1) *Personality Tests* usually produce one of those tantalizing situations which often arise; there are group differences between good and poor salesmen, or between salesmen in general and a control group, but individual prediction is far from perfect. Schultz (24), for example, used tests of ascendance-submission and introversion-extroversion, and concluded that if personality tests alone had been used the production of the whole group of life insurance salesmen so selected would have been raised 50 per cent. Adding an intelligence test raises the prediction of success to nearly 70 per cent. This assertion was on the basis that 69 per cent of those who achieved the greatest amounts of new business would have been employed, and 69 per cent of the poorest would have been rejected on the basis of test scores. Adding the *Strong Vocational Interest Blank* would have added another 6 per cent, to 75.

The *Wisconsin Scale of Personality Traits*, devised by Stagner, was used by Husband (12). This is a test of 125 items, scored in terms of four major constellations, as indicated below. Sixty-four salesmen in retail stores were obtained, both men and women, with a median age of 28 years, and with a median selling experience of 8.3 years. For comparisons, norms on a thousand undergraduates were used. College students have usually been assumed to be typical in personality traits, although they are of a certain age, educational level, are largely above average in intelligence, and from above-average socioeconomic environments. Furthermore, there is suggestive evidence that they are slightly more extroverted than the average of their age, and perhaps are more neurotic than average. In the study referred to, the critical ratios were as follows: students more neurotic, 3.76; students only slightly less extroverted, 1.64; salesmen decidedly more self-confident, 6.71; and salesmen reliably less interested in social and athletic activities and more passive in a social situation, 5.26. The latter may be due to the unique character of the student's environment. The most surprising finding in this investigation was the small difference in extroversion, as this is the trait first mentioned

as a *sine qua non* in almost every description of an ideal salesman's traits. Some attempt was made to correlate excellence as a salesman and test score, but little correspondence was found, beyond a tendency to be less neurotic and more extroverted than the average of salesmen.

The Klein Institute of New York City, reported by Flemming (9), worked up a completely objective battery of tests for selecting salesmen, the Otis S-A being the only one in the battery not of personality. The tests included Strong, Bernreuter, Moss *Social Intelligence*, Washburne *Social Adjustment Inventory*, and a "Sales Sense test" designed by the Klein Institute. The analysts never laid eyes on applicants for interview or any other purpose, but they drew up specifications for each specific selling situation as they made recommendations for each company. To validate their predictions they were forced to use executives' ratings, finding more objective criteria too heterogeneous for satisfactory statistical treatment. Validative results of one survey with 348 applicants showed these trends:

<i>Executive rating</i>	<i>Analyst's prediction</i>	
	<i>Unsatisfactory</i>	<i>Satisfactory</i>
Satisfactory.....	45	208
Unsatisfactory.....	45	50
Tetrachoric correlation = .49		

In less technical language, half of those predicted unsatisfactory proved to be so, although an equal number worked out all right. Four-fifths of those predicted to become good salesmen did so, and slightly less than one fifth failed. In a second investigation, involving five companies, each with a slightly different problem, an analysis of test scores gave predictions which later agreed from 80 to 89 per cent with executives' ratings.

Viteles (27) gave the *Humm-Wadsworth Temperament Test* to 59 appliance salesmen, and concluded that it had little validity for this purpose. Using the test authors' own recommendations, 20 of these should have made a success in selling, but actually 12 of the 20 resigned or were discharged during the tryout period.

Bernreuter Personality Inventory.—This test has received probably the most widespread usage of any personality test,

both generally and for the purpose of selecting salesmen. In general, to summarize at the outset, the best that can be said for it is that trends rather than certainties appear. For example, Dodge tested 75 salespeople, 41 male and 34 female, in a large department store, and compared the top and bottom quarters in terms of rated effectiveness (7). There was much more agreement between the extremes of salesmen than between salesmen and non-salesmen. Hence it might be said that a "sales type," representing possibly merely willingness to work in the field, exists apart from the level of potentiality toward the occupation. An outstanding factor in Dodge's investigation was that all salespeople scored high in social dominance.

In another study Dodge (8) went a step farther and used an item analysis technique on the Bernreuter test with some success. Those traits which especially differentiated the successful sales person from one of marginal efficiency were:

- Not moody nor subject to worry
- Self-confident and self-sufficient
- Aggressive and willing to assume responsibility
- Sociable
- Free from self-consciousness
- Little tendency to talk about oneself
- Not resentful of criticism or discipline
- Radical and unconventional (such as not being unduly bothered to find oneself inappropriately dressed on a certain occasion)

Bills (4) emphasizes a previously observed finding, that personality test scores are more valid at the extremes than in the middle range. In predicting success at selling life insurance she found that definite successes and failures are better predicted than the intermediate "fair successes" and "just fairs." Further, on the Bernreuter test there is predictability for those scoring *high* on the scales for emotional stability, self-sufficiency, extroversion, and dominance, but low scores gave no prognostication of value.

(2) *Interest tests*, almost exclusively the *Strong Vocational Interest Blank*, have been rather widely used, especially in the insurance field. In addition to excellent success reported in a number of investigations, very widespread use has lately been made of it by the Life Insurance Agency Management Association.

Otis, in the study mentioned before (22), used the Strong blank on detergent salesmen, and found a positive correlation of $+ .50$ between selling cost and the totals on the Life Insurance and Real Estate salesmen scoring stencils. The criterion of selling cost is not in this case clearly defined, but should presumably include at least the compensation paid the salesman plus his traveling expenses, since in this firm 24 men covered the entire country.

Over 700 men attending the casualty insurance schools with the Aetna Life Insurance Company were given the Strong Interest Blank, among other tests, as reported by Bills (5). They were scored for both life insurance and real-estate salesmen. Criteria against which scores were compared were ratings by agency managers, since it was stated that sales totals were dependent to a considerable extent upon local factors. In a previous study (6) it had been found that percentages of failures ran in direct relationship with lowness of score. Of those rating A on both scales only 22 per cent failed, while 76 per cent of those with C scores for both sales fields failed. Similar trends were found in the first mentioned study. Of outstanding successes 20 per cent had A scores on both scales, while only 4 per cent of successes had two C ratings.

Age differences, somewhat independent of interest scores, appeared, suggesting a weighting technique. This was applied, with the addition of the personal history blank. The younger the person the more certainly a high score predicted success. For those under 25 a high score gave 3.3 times the chance of success, and those over 30 had 2.3 times the chance of success when they had a high score. Thus, while the Strong blank alone gives a good measure of both permanency and success in the field, prognosis is still better when personal history items are added.

Strong himself reported correlations between ratings on the life insurance scale and production records varying from $+ .10$ to $+ .55$ (25). In another study (26) he compared scores and degree of success in selling insurance. Of those who sold more than one hundred thousand dollars of policies in one year, 85 per cent scored A, while only 25 per cent of those rating C sold that much. With a figure of \$150,000, 67 per cent scored A

and only 6 per cent had a C rating. Intermediate percentages characterized those rating B+ and B.

Strong makes an interesting point concerning selling insurance, namely that one must have each trait expected and that one cannot compensate, as in some other occupations, for a lack of one by an extra amount of a second trait. Other writers have suggested the same principle for other types of selling.

Ryan and Johnson (23) investigated a different type of group, and had to devise a new approach as well. The group was composed of 300 salesmen in the machine-accounting division of a company, and comparison was made with 1,000 servicemen engaged in inspection, repair, and general maintenance of electric accounting machines. They devised what were termed "ability-group keys," which were based upon comparison of the interest responses of the most successful men in a vocational group with those least successful within the same group. Strong's key could not be used, so a new system of weights was derived, comparisons being made between persons of different levels of performance within one occupation rather than between members of an occupation with outsiders. While the study was admittedly preliminary, the investigators felt that the method was promising, and they were able to produce greater differentiation than could have been achieved by prefabricated scoring keys. Might we jump from this conclusion to the suggestion that each type of salesmanship is unique, hence new systems of evaluation, both as to choice of items and weightings, must be derived for each sub-occupation?

Ghiselli (10) failed to obtain significant correlations between Strong scores and either rating by sales manager or actual production records of casualty insurance agents. The interest tests were scored for CPA, life insurance, and real estate sales; also for occupational level and six group scales. The criterion score was the combined rating and production figure. CPA score correlated $+ .38$ with criterion, life insurance sales score only $+ .12$. Occupational level score had the second-highest extent of agreement; $+ .27$ with the criterion. However, only 29 persons composed this group, so comparisons among scores are not too reliable.

(3) *Intelligence*.—Job analysis suggests that intelligence is of less importance than personality in selling. It has been said that if one is bright enough to understand the nature of his product, and also on a level with most of his customers, that is sufficient, and any greater innate aptitude is unnecessary and irrelevant.

In Anderson's investigation, reported above (1), intelligence scores were obtained on 500 sales clerks in a department store, chosen at random. The scores are summarized in the following table.

<i>Intelligence</i>	<i>Number</i>	<i>Per cent</i>
Superior (IQ above 110)	27	5.4
Average (IQ 90-109)	203	40.6
Dull average (IQ 80-90)	172	34.4
Subnormal (IQ 70-80)	78	15.6
Borderline mental defect (IQ 60-70)	20	4.0

The median IQ, therefore, would be about 88 or 89, but we know that adult IQ's, especially for those ten or twenty years out of school, are uncertain. We may be certain, however, that one need be no genius to sell in a New York City department store. As to the quality of selling and intelligence, there was only a vague trend; the low-cost group had only a slight preponderance of bright and only a slight dearth of dull.

Miner's pioneer investigation (19) bears out this hypothesis, or perhaps since it was an early study it gave rise to this idea. It showed that the more complex and technical the article the more intelligence a clerk needed, or at least possessed. While there is overlapping between each two contiguous groups, there is none at all between the first and third, or second and fourth.

<i>Type of work</i>	<i>Number</i>	<i>Average</i>	<i>Range</i>
1. Low grade; make change on one-priced article	52	51	36-70
2. Wholesale order takers	73	89	59-121
3. Insurance salesmen	326	112	82-138
4. Selling technical article requiring training	66	139	124-155

Lovett and Richardson (16) found that intelligence level was of only slight significance for selling itself, but was of useful diagnostic value in considering promotion to sales manager.

Ghiselli (10) obtained correlations of $+ .39$ and $+ .26$ between the Pressey classification test and rating and production, respectively, with casualty insurance men.

Method II. Interview Techniques

As with most employment, the interviewing of prospective salesmen is usually an important step in hiring. A questionnaire survey of 27 companies (11) showed no uniformity in actual procedure, however. Most companies claimed that their interviewers required training, experience, and skill, in order to obtain the necessary information and to make objective evaluations of candidates. It might be pertinent to ask whether any amount of just plain experience will suffice to convert subjective impressions into objective values. Training aimed at standardization is essential.

McMurry (17) standardized an employment interview following a clinical study of 250 salesmen. His validative research showed that this, plus personality questions selected by item analysis, eliminated 22 per cent of the mediocre men, 32 per cent of the failures, and discarded only 7 per cent of those who became successful.

McMurry points out (18) these advantages of the patterned interview: it works from job specifications, the interviewer knows just what questions to ask, he is trained, he has obtained advance information about the applicant, he has clinical yardsticks at his disposal, and he himself was well selected in the beginning.

The same author has devised a "Patterned Interview Form" in a four-page leaflet of over a hundred questions. The interviewer is given directions in fine red print under the question, such as, when the applicant is asked how he obtained his last job, the rater is to comment on this question: "Has he shown self-reliance in getting his jobs?" In summarizing previous work experience, comments are made on such questions as "Has he stayed in one line of work for the most part?" "Are his attitudes toward his employers loyal?" "Did conditions in his occupation justify the amount of time he has been unemployed during the last five years?"

To check the validity of the widespread assumption that one

can size up a man from talking to him or inspecting his picture, Kornhauser and McMurry (13) had 800 visitors at a national business show rank from photographs ten salesmen with known sales records and tested intelligence scores. The ratings agreed fairly well among themselves, but had no validity so far as agreement with actual performance was concerned. The consistency, even if invalid, was interesting, and suggests that stereotypes must have been present as to what features a salesman should have.

Method III. Clinical Analysis

The next approach involves the clinical technique, in which one tries to identify crucial personality factors which have contributed to sales success.

Anderson's study (1), while older than the scope of this review, is important enough to warrant somewhat detailed discussion of his techniques. These consisted essentially in describing the characteristics of good and poor sales clerks, so termed on the basis of selling records. His first investigation used 284 clerks in a large New York City department store, composing the upper and lower quarters of their departments in terms of what he termed "cost of selling." This was determined by the ratio between total sales and weekly earnings; naturally the more goods sold per dollar of wages the lower the cost of selling for each particular clerk. An example of Anderson's treatment is illustrated in the following table.

<i>Personality type</i>	<i>Low cost</i>	<i>High cost</i>
Extrovert.....	54%	11%
Ambivert.....	36	49
Introvert.....	10	40

We see that the customary recommendation that salesmen should be chosen from among extroverts is born out, as the majority of low-cost clerks are from this group, and few introverts are low-cost employees. Also we note that as usual there is no hard-and-fast distinction. Other traits have similar fairly clear-cut distinctions, while still others show little differentiation. For instance, almost as many of the high-cost group are reported by their supervisors to be pleasant as of the low-cost clerks. Appearance is another factor which shows

little conformity with performance on the job; actually 4 per cent more of the high-cost group are reported as making a "good sales appearance." Extensiveness of selling experience, likewise, is little indication of performance on the present job.

Anderson's own summary of this phase of his investigation reads:

Our data show that the low cost-of-selling employee is predominantly an extroverted, active, alert, aggressive, convincing, ambitious, responsive, pleasant, and well-integrated individual, while the high cost-of-selling employee is more frequently likely to show such characteristics as introversion, under-activity, tendency to mental reverie, lack of ambition, unresponsiveness, instability, and the like. (p. 243)

In a further study, even greater extremes were inspected and scrutinized when the very best and very worst clerks in fifty departments were selected. These one hundred sales persons were chosen by combined ratings of floor superintendent, department manager, and training representative. Clerks under 20 contributed five times, and those over 50 six times as many persons to the worst group as their proportions alone would predict. Four out of five of the best were between twenty-five and forty years of age. In intelligence, five times as many of the best clerks were in the superior group, and more than three times as many rated subnormal came from the "worst" group. In physical health, a clear distinction was apparent; while 78 per cent of the best sales clerks were in good physical condition, only 40 per cent of the worst salesmen were rated as healthy. Serious personality disorders were reported in a quarter of the worst clerks, but in not a single one of the best clerks.

Specific traits exhibited by "best" clerks were: alert, aggressive, extroverted, active and energetic, convincing and ambitious, accessible, responsive, pleasant, courteous, well integrated, with good insight, a good attitude, and vitally interested in their work.

No distinction is entirely hard and fast—"good sales clerks do not possess traits and tendencies wholly absent in the poorer salesmen," and conversely the "poor clerks are not handicapped by conditions which never exist among good sales clerks." Differ-

ences exist in degree, not in presence or absence of a trait. Finally, Anderson points out that the dividing line between good and poor sales clerks is in the total personality, and in its dominant and outstanding trends and characteristics.

Anderson does conclude with a table of characteristics—age, schooling, work experience, physical condition, intelligence, and personality traits—to which he would like salesmen to conform. But he does *not* present validating evidence, in the form of success of new clerks hired by means of the characteristics he ascertained in his two surveys. This should not be at all laborious to complete in a large city store with its rapid turnover. However, the reviewer does not feel that this creates as serious a gap as a parallel omission might produce in many other predictive situations, where a set of factors ascertained with one group might not obtain in a second or new group. It is our opinion that findings would be pretty stable in the same store, and probably in other retail department stores as well, but it is extremely doubtful that they would transfer to other types of selling, such as insurance or wholesale.

A study of clerks in a Berlin, Germany, department store was summarized (3) as follows: "The following characteristics were found to be necessary for a successful salesman: appearance, carriage and gesture, speech, conversability, ability to discover buyer types, mental adaptability, observation, knowledge of goods, and knowledge of the manufacture of the goods." This article was available in abstract only, hence the methods used are not available to the reviewer.

The reviewer feels that the clinical method is profitable and deserves wider use in the selection of people who, like salesmen, operate largely on their own.

Method IV. Selection Methods Using Personal History Data

Ohmann (21) conducted a thorough study on salesmen handling roofing and waterproofing materials, principally using application blank data. These salesmen called on plant superintendents, contractors, etc., so they might be assumed to have duties more like wholesale representatives rather than retail salesmen.

This company had been using for eight years a lengthy 31-item application blank, apparently of more or less traditional content. Ohmann eliminated six of these 31 items because they could not be rated objectively, and subsequently twelve more were discarded as not differentiating between the upper and lower halves in terms of sales success. The thirteen "Personal History Items" retained were:

- Age
- Height
- Marital status
- Number of dependents
- Insurance carried
- Amount of debts
- Years of education
- Number of clubs
- Years on last job
- Experience in maintenance
- Average number of years on all previous jobs
- Average monthly earnings on last regular job
- Reason for leaving last regular job

Weights were derived on the basis of responses of 48 salesmen whose earnings were available for a full year. Two samples of these weights follow. Six feet or more of height is assigned seven points, five-ten or five-eleven gets five points, 69 inches four, and up to 68 inches three points. On "reason for leaving last regular job" scoring weights were developed as follows: Still employed, 10; Job discontinued, 7; To better self, 5; Dismissed, 4; and Friction or other negative reason, 2 points.

Finally, a critical score of 62 points on the scale was determined. "The experience of the company is that 70 per cent of those scoring above 62 are still working, while only 30 per cent of those scoring below 62 are still employed." This critical score was obtained on 65 salesmen employed over a two-year period, and whose successes were followed up. Thirty-three were still working at the time the report was published; 32 had left. The investigator states that if the critical score had been in force, 4 out of 5 who would have been successful, and only a third of those below that score would have remained with the company. Hence it is concluded that the scale and the critical score developed from it is a good, although not perfect, discriminating instrument.

The Life Insurance Agency Management Association (formerly Life Insurance Sales Research Bureau), which has done excellent and voluminous research for its member companies, has developed a test booklet which consists of two separate tests: (1) a *Personal History Rating Chart*, and, (2) a *Test of Personality Characteristics* (14, 15). The rating chart has just nine questions, covering dependents, previous work history, organizations to which one belongs, and several indices of financial responsibility. Appropriate weights have been derived for various possible answers. The Personality Characteristics section is adapted to the sales occupation, but superficially does not appear to be a significant departure from previously existing self-rating devices. The contribution is in the item analysis which has enabled this test to do a good job of discrimination. An accompanying manual presents validity statistics resulting from a follow-up of agents selected by the combined scores. For instance, in studying the total first-year production, men rated A by the dual criterion sold eleven times as much insurance as men rated E. Stated in another way, seven average men would sell a certain amount of insurance, whereas four A men would obtain that same amount of business, and 19 E men would be needed. Survival value with the company is equally well predicted. All in all, this double-barrelled test has excellent discriminative and predictive powers, and the reviewer would venture to attribute its success to careful item selection on both halves and to constant follow-up and validation.

Otis (22) described the construction of a weighted scale for nation-wide wholesale salesmen for a detergent company (selling soaps and cleaners to laundries, textile plants, etc.). Not many salesmen are required, and the turnover is not great, so each recruit can be studied thoroughly before employment. Application forms consisted of questions about family and personal background, educational history, present domestic and economic situation, work history, recently held jobs; reaction of prospect toward the new position; and a few miscellaneous personal observations. Otis appears not to have derived his own weights, but to have used those ascertained by previous investigators. These scores subsequently correlated

+ .31 and + .37 with selling costs and gross sales, respectively. These figures are lower than a coefficient of + .50 for the same group between sales items from the *Strong Vocational Interest Blank* and selling costs.

Summary

We have presented considerable data bearing on the validity of the four principal methods of selecting salesmen: (1) Tests of personality, interests, and intelligence. (2) Interview procedures. (3) Clinical analysis. (4) Application blank, or personal history data. We shall summarize these, with an eye to the future, in that order.

While the use of *Tests* is growing rapidly in industrial personnel selection, tests, at least as constituted at present, exhibit such weak correlations with subsequent *sales records* that the reviewer regards them rather pessimistically. This is largely because selling is primarily a social or personality function, and personality inventories are admittedly imperfect. Prediction could not be expected to be as good as it is for jobs calling for motor or intellectual performances—situations in which tests have higher reliability and validity coefficients.

The one test which does show promise is the *Strong Vocational Interest Blank*. The reviewer has always felt that the Strong test obtains much of its merit by its independent scoring for each occupation, its elaborate weighted scoring procedures, and its length. We suspect that any short-cutting or shortening would materially reduce its effectiveness.

Interview procedures, usually considered the heart of employment practice, have not done too well in selecting sales personnel, although McMurry's standardized interview shows distinct promise. This can be made highly reliable; witness the *Stanford-Binet Intelligence Test*, which after all is essentially a controlled interview. The interview cannot be hit or miss. It must be based on job analysis, and the questions standardized accordingly. The interviewer must be trained, to agree with others and with himself, in successive interviews. A suggested field for research is the development of a weighted scheme for scoring the candidate's replies. There has been only a scanty amount of fragmentary work done along this line. After all,

the best designed and conducted interview will fail in prognostication if one does not know precisely what to do with the answers to the questions asked.

Clinical analysis is valuable for validative purposes. It shows what traits salesmen of known performance-levels do or do not possess. It is the reviewer's opinion that more can be done with clinical analysis and by going one step farther. That step is applying what has been found to new applicants. The dubious portion of this link is being able to identify the presence or absence of such a trait while one is sizing up an applicant. As we quoted earlier from Anderson, low-cost clerks are energetic, extroverted, and courteous, among other traits; but can these traits be spotted immediately in an applicant?

Some of the best data come from a surprising direction. It has become common to direct jibes at the *application blank*, asking such questions as "What has the birthplace of one's grandfather got to do with job success?" Yet we see that a weighted scale devised and applied by Ohmann attained 70 to 80 per cent effectiveness—both positively in selecting good representatives and negatively in weeding out the poorer ones from among all candidates. We might point out that Ohmann did not weight the birthplace of one's grandfather, but rather he found that just 13 of 31 traditional items on an application blank were usable for his techniques.

The application blank—or personal history data obtained by any other method—does have this advantage: one can find out certain long-time characteristics which a brief interview or a test battery will not disclose. It has been found in industry that much turnover is due to these factors, and personnel managers have bewailed the virtual impossibility of ascertaining such information at the time of employment. Yet here we have a suggestion. Probably, like the Strong test, to attain worthwhile results we would need to cull out the wheat from the chaff, and use only items which proved to have predictive value; and secondly, to weight these. This approach looks promising.

We cannot conclude without one final point. All selling is not alike. Some researchers in the field go so far as to deny

that the store clerk is a salesman at all. Having done selling himself, the reviewer would estimate that at least three-fourths of the goods bought in retail stores sell themselves, and that less than a quarter represents actual salesmanship. In contrast, insurance or wholesale selling is much more the result of definite sales efforts.

The solution to the problem arising from variety in types of selling lies again in job analysis. From intensive review of the literature, from the writer's personal experience, and from correspondence with other researchers on the subject, the writer is convinced that sales selection will have to be like selection involving motor skills, namely specific. Each type of selling and probably also each type of product or services sold will require independent analysis with individual selection adapted to its particular requirements. How minute this can ever become is conjectural. For instance, could a department store develop sufficiently fine discriminative techniques to choose one person to sell clothing and another hardware, or still farther to distinguish between selling sports clothing and business clothes?

All of these problems indicate what may appear a bit trite—research on the subject of selecting salesmen has as yet hardly scratched the surface. Yet we do possess techniques which have achieved a high degree of success in individual instances, and which have definite future potentiality.

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"PATTERN TABULATION": A STATISTICAL METHOD FOR ANALYSIS OF LIMITED PATTERNS OF SCORES, WITH PARTICULAR REFERENCE TO THE RORSCHACH TEST¹

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A MAJOR gap between psychometric and clinical methodology at the present time is the insistence of the clinician that the full meaning of results on many tests can be understood only through study of interrelated patterns of scores. The conventional statistical methodology is unable to cope with patterns in a way approximating clinical pattern interpretation. The result is that research on many clinical problems and tests is incomplete or unsatisfactory. In research which does deal with patterns of scores or their interpretation, the final assessment of personality is qualitative and difficult to evaluate by conventional statistical techniques. If the research is based on the statistical treatment of one score at a time, it is unconvincing to the clinician because many of the richest meanings in the test data cannot be handled in such studies.

While clinicians can give full attention to interrelations in studying scores of one person, statistical methods have not been available for treating groups in a similar fashion. Statistics are needed because they alone can reduce to intelligible form the complex of information obtained when a group is tested on a multi-score test. If fifty people take the Wechsler test, 550 subtest scores result. This amounts to an 11 x 50 table, or 50 points in 11-dimensional space. Statistics must somehow abstract from this the most important generalizations about the group. The alternate procedure, having a clinician study all fifty people and generalize without the aid of statistics, is too lacking in objectivity to be completely acceptable.

¹ Naomi Livesay collaborated with the writer on explorations of statistical methods for closed systems, which strongly influenced the development of the present method. The writer wishes to express his indebtedness to Audrey Rieger for her cooperation which made the present study possible.

The need for a sensible application of statistics to clinical problems has been stated clearly in a series of papers by Rapaport, Schafer, and Munroe, presented as part of a symposium on diagnostic testing. One statement by Schafer deserves quotation here:

What then is the role of statistical investigation in the theory and practice of diagnostic testing? Statistics can and do point to relationships among quantifiable aspects of test data which occur with significant frequency with relation to some criterion such as a particular form of neurosis. In this they render an invaluable service by pointing to the need for psychological hypotheses or rationale at just those places where relationships are discovered. . . . Statistics, in a dynamic psychology, . . . lead to and subsequently verify hypotheses which can establish meaningfully probable diagnostic conclusions. Statistics serve also to put into communicable and therefore teachable form the meaningful or determined relationships uncovered by repeated processes of insight (7, p. 6).

Scope of this Report

This paper presents a technique which, in a limited way, permits statistical treatment of patterns of scores. The method is applied here to the Rorschach test, but it is general enough to be helpful with other diagnostic tests. The technique permits one to summarize the performance of a group of persons on a pattern of several scores, to compare groups and to test differences in pattern for significance. The severe limitation of the method is that not over three independent scores can be considered at once. Patterns of more than three scores considered simultaneously are beyond the scope of the method.

Previous Methods.—A variety of methods have been used for dealing with data where several scores are available for each person. These methods are all in various ways unsatisfactory, although no formal critique will be essayed in this article. Essentially, the fault of these methods has been to conceal some generalizations which the data permit. Occasionally, too, the methods produce misleading conclusions. The widely used methods, which must be rejected as inadequate for research with tests capable of pattern interpretation, include: comparison of mean scores in single categories; com-

parison of means of ratios between scores (e.g., W per cent, $W:M$); and additive combination of scores into a single index to be treated statistically. These methods are sound enough for limited purposes, but many significant problems they are quite unable to solve.

Only one technique used for quantitative treatment of Rorschach scores is in accord with the theory behind the test that each score must be related to other scores, and particularly to the total number of responses, before its meaning can be understood. This method is Munroe's Inspection technique. Her checklist, in effect, examines each record for certain significant patterns of scores, and a group may be summarized in terms of the frequency with which each important pattern is found. Her method is limited, since many important relations between scores are not explicitly represented in the checklist. Her procedure is, however, based on the same logic as the clinical treatment of records.

Munroe has, in fact, expressed just the viewpoint regarding the statistical treatment of Rorschach data which this paper seeks to implement. In the aforementioned symposium, she comments:

Projective test literature, especially the Rorschach literature, is full of quantitative studies, many of which have yielded very disappointing results, [and] some of which seem very promising. By and large it seems clear that poor results are obtained when a limited number of the traditional scores (which were never intended for use in isolation) are equated with personality traits without further ado and correlated with external factors. Promising results are obtained when combinations of scores are used which are known clinically to have some stability of meaning from one individual to the next, or when the clinically experienced examiner observes certain recurrences in the performance of special groups which are not generally encountered. . . . The simplification necessary for objective mathematical treatment can capitalize clinical experience in determining fruitful lines of codification (4, p. 15).

Data Used in this Report.—This paper is concerned with the exposition of a statistical method, rather than with any specific research study. To illustrate the operation of the method and the type of results obtained, constant reference will be made to data from a study by Audrey Rieger (6). The method under

discussion was developed to cope with problems arising in Rieger's work, and with her permission it is here applied to certain of her data.² No attempt is made here to deal with the question of personality differences in occupational groups which Rieger investigated.

Rieger's problem was to compare groups of men in different professions and occupations to determine if certain personality patterns characterized any group. She had for analysis individual Rorschach tests which she had administered to a group of high-level, pre-selected men in each of several vocations: salesmen, engineers, personnel men, etc. Her scoring of the records by the Beck system was spot-checked by Beck himself. Part of her data, comprising 266 records, is used for illustrative purposes in this report.

The Rorschach Test.—The reader who is unfamiliar with the Rorschach test is referred to Manuals by Beck and Klopfer for full information. The essential point for the present discussion is that a large number of scores are obtained which can best be interpreted in relation to each other. There is, first, the score R , number of responses. R may be subdivided into three categories which together define the "approach." R is the sum of the scores W , D , and Dd (wholes, usual details, unusual details). R may also be subdivided into another set of scores, the "determinant" categories: movement responses (M), color responses (*sum* C), and others not considered in this report. The color responses themselves are subdivided into FC , CF , and C responses. These divisions and relations are seemingly arbitrary, but they relate to theory which has been established from the consistent clinical finding that these relationships are important. Since, in the method under discussion, only three scores at a time may be considered in a pattern, patterns such as the following may be treated:

Approach.....	W, D, Dd
Experience balance.....	$M, \text{sum } C, F^*$
Emotional balance.....	$FC, CF + C, F^*$

* It is more informative to compare all three scores than to rely on the simpler comparisons $M: \text{sum } C$ or $FC: CF + C$.

² Because the writer's computations were made independently of Mrs. Rieger's, using different cases, different class intervals, etc., the findings are not always identical. Mrs. Rieger's report makes use of a preliminary and relatively less powerful form of the statistical method proposed here.

Any three scores whatsoever may be thrown together as a pattern (but see comment regarding intercorrelations in a later section).

The method to be presented is not intended as a change in the Rorschach technique. It is an attempt to translate the clinical theory of score interpretation into a statistical device which can answer questions about groups of cases. This in no way supercedes the intuitive clinical methods now used with individuals.

Purpose of Proposed Method.—The goal has been to find a method richer than previous methods, retaining more of the pattern interpretation customary to clinical analysis. It is desired to describe and to compare groups on several scores simultaneously. The merits claimed for the new system are as follows:

1. It is consistent with the interpretation made in clinical use of multi-score tests.
2. It can cope with two- or three-score patterns more adequately than previous methods.
3. It is parsimonious, avoiding reporting a single psychological difference over and over in repeated computations.
4. It can reveal differences in pattern which would otherwise be concealed due to the cancelling effects of interacting forces.
5. It permits description of a group in terms of the distribution of patterns of scores.

Procedure

Overview.—The stages in the treatment of data are:

1. Any three scores constituting an interpretable pattern are taken. The number of dimensions to be considered is reduced to two by considering separately any general factor underlying all scores. Thus, separate significance tests are made on *R* (total responsiveness) in the Rorschach. This reveals any difference in *level*, and permits subsequent attention to fall entirely on the *types* of responses.

2. Each of the three scores is transformed by means of a percentile distribution into a normalized scale. The distribution

of transformed scores in each variable is normal, and the three scores are now expressed in comparable units.

3. The three normalized scores for each person are averaged, and three new "profile scores" are obtained. Profile scores are obtained by subtracting their average from each of his three normalized scores.

4. The three profile scores (a two-dimensional set since each person's must add to zero) are plotted in a triangular, homogeneous-coordinate diagram. Every point in the diagram represents a different pattern. As a result, the final chart is a frequency distribution of the patterns found in the group.

5. Any two distributions may be compared, and differences tested for significance by Chi-square.

Normalizing.—Having chosen the scores which form a meaningful pattern, the investigator reduces each to a normalized form, that is, to scores having a normal distribution and the same mean and sigma. This is Wechsler's method of reducing scores on his subtests to a manageable profile. In the Rorschach, the equivalent has been done mentally by the interpreter, who uses informal norms or rules of thumb when he thinks of a particular score as high or low.

To normalize scores, one must choose a large norm group, representative of a significant population. There should probably be separate sets of norms for various age and sex groups, and for subgroups such as schizophrenics, college graduates, etc. The proper standardizing group depends on the type of comparison to be made. For many studies, norms for men-in-general or adults-in-general are adequate. Complete data on various representative samples should be obtained. To date, most attempts to provide Rorschach norms have stopped with the reporting of means of single scores. *What is needed is complete distributions of scores and patterns of scores.*

In the Rieger study, each occupational group was to be compared with her total group of superior employable men. This total sample is not ideal, but it was used in the absence of a carefully chosen group of men-in-general. The data had the major advantage of uniform administration and scoring. It is essential that test scoring be standardized if statistical methods are to be used.

To normalize a particular score, a frequency distribution of the entire group of cases was made on each category. (In this step, 352 cases were used. Some of these records, representing miscellaneous small groups of employees, were later dropped in making other computations.) The cumulative frequency curve for the score was plotted and carefully smoothed to eliminate trivial variations due to sampling. The percentile equivalent of each score was determined from the smoothed curve. The percentile is then converted into a z -score by means of the normal-curve table. Finally, z -scores are transformed into a new scale having a mean of 100 and a sigma of 10. (In the Rieger study, and therefore in this report, sigma was set at 15. This choice was quite arbitrary, and made at random. It is

TABLE 1
Partial Table of Normalized Equivalent Scores for Six Rorschach Categories

W	W'	D	D'	Dd	Dd'	M	M'	$sum\ C$	$(sum\ C)'$	F	F'
0	66	3	62	0	82	0	76	0	67	3	66
2	78	7	79	1	95	1	88	1	82	6	79
5	93	11	89	2	99	2	98	2	89	10	90
7	102	19	100	3	103	3	103	4	99	16	100
10	111	31	110	7	111	5	113	6½	110	27	110
14	120	45	120	17	120	8	119	9½	120	43	120
24	130	59	130	35	130	13	129	18	130	65	130
33	140	97	140	54	140	19	140	—	—	93	140

wiser to use 10 as the standard deviation in future work.) The above steps are not reported in detail, as they can be found in statistics texts, e.g., Garrett (1, pp. 149-155) and McCall (3, pp. 505-508).

The result of the above computation is a transformation table, which converts raw scores into *normalized scores* (indicated by a single prime, thus W'). Typical values from the Rieger transformation tables are given in Table 1. When scores are converted into normalized scores, no change has been made in the relative scores of any persons; their ranks in every score remain the same. *Normalized scores permit every interpretation a raw score does.*

Normalized scores have certain advantages: (1) They can be interpreted in terms of a normal distribution. If 100 is the mean in all categories, such scores as W' 102 or $(sum\ C)'$ 89

can be immediately interpreted in terms of standing in the group. (2) The distributions are normal and correlation plots between variables are more often linear than when raw scores are used. (3) The differences between individuals in transformed scores are more nearly equivalent to true differences in personality, if the traits under consideration are normally distributed.

This is worthy of elaboration. We tend to interpret numerically equal differences as equal. Thus, until experience proves us wrong, we tend to think of a score of 10 W as falling midway between 0 W and 20 W . Psychologically, the jump from 0 to 10 may be far greater than the mere cumulation of further responses that raises the score from 10 W to 20 W . Similarly, the rise from 2 M to 5 M is harder to attain than the rise from 5 M to 8 M . In transformed scores, 0 W , 10 W , and 20 W become 66 W' , 111 W' , and 127 W' , respectively. 2 M , 5 M , and 8 M become 98 M' , 113 M' , and 119 M' . It is the writer's opinion that the gap between normalized scores is much more descriptive of the apparent difference in behavior of people producing each score, than is the gap in raw scores.

The disadvantage of transformed scores is that scores at different positions on the scale are not equally reliable. A change of only one response changes Dd from 0 to 1, but changes Dd' from 82 to 95. Drastic changes in normalized scores may result from chance errors of measurement. What this implies is that the Rorschach test does not measure individual differences precisely when people are below the mean in W , Dd , M , or *sum C*.

Comparison on the General Factor.—People may differ in W , D , and Dd , and yet not differ in approach. Where all three scores are higher, for a given person, the simplest interpretation is that he is more responsive, and of course R is also higher. Many studies have reported, as if they were separate significant findings, that some group A significantly exceeds a group B in W , D , and Dd . Such a comparison of course is duplicated when the difference in R is tested for significance; worse, it fails to reveal true differences between the groups in approach pattern. It appears that often writers have said, in effect, "Group A exceeds Group B in D " when in truth A is

equal or lower in tendency to give D , after differences in general responsiveness are ruled out. (For an example, see Kaback's comparison of pharmacy students and accountancy students (2, p. 38).) Before considering how the effect of the general factor can be ruled out, we may consider how differences in general level are tested.

For Rorschach R , the score is simply distributed for each group and differences between groups are tested by Chi-square or by tests of the difference between the means or medians. For patterns where there is no direct score representing general level, the procedure is to average the normalized scores for each person and to compare the groups on the distribution of these averages. Thus, if approach is the pattern under consideration, one might compare groups on $(W' + D' + Dd') / 3$ rather than R . This is unimportant, as the two scores correlate over .95 (tetrachoric), for the Rieger data. Similarly, the average of M' , $\sum C'$, and F' adds no information to that given by the R score. Usually, there will be no purpose in separately evaluating numerous general-level scores for the same test.

Before considering patterns, we may give a few results of significance tests on R for the Rieger groups. Each occupational group was tested against the total sample with men of the category tested removed.

Results included:

Engineers ($n = 52$), no significant difference from total group.

Clerical ($n = 65$), no difference from total group in median R (29.5, compared to 28.0 for men other than clerical). But significantly more clericals in middle range, R 20 to R 49 ($\chi^2 = 6.5$, $P < .02$).

Supervisors ($n = 35$), median significantly low (16.6).

The person concerned with these findings for their own sake should consult Rieger's report for descriptions of the types of men in the sample.

Computing Deviation Scores.—At this point, we make the single essential assumption in the proposed method. Statistical methods cannot treat every pattern as unique, but must find some basis for defining and grouping similar patterns. In the proposed method, the pattern of scores is taken to be the

deviation of each man's normalized scores from their average; this is identical to Wechsler's method of getting patterns. It is then assumed that similar profiles are equal, no matter what the average score is for each person. Profile scores (symbolized by a double prime) are obtained by averaging the three normalized scores composing the pattern, and subtracting this average from the scores in turn. Thus, if a man's scores are W 9, D 13, Dd 5, the normalized scores are W' 108, D' 93, Dd' 107. These average 102 $\frac{2}{3}$, which is rounded to 103. Subtracting 103 from the normalized scores gives the profile scores: W'' +5, D'' -10, Dd'' +4. The three profile scores add to zero, except for the occasional error of one point due to rounding off.

TABLE 2
Illustrative Patterns of Rorschach Profile Scores

Case	R	Raw Scores						Profile Scores							
		W	D	Dd	M	sum	C	F	W''	D''	Dd''	M''	sum	C''	F''
1	61	5	38	18	10	5½	42	-17	5	11	7	-10	3		
2	36	3	27	6	1	2½	30	-17	7	9	-9	-5	15		
3	34	8	21	5	3	4½	19	1	-3	2	0	-1	1		
4	14	9	5	0	1	4	10	21	-15	-5	-4	7	-2		

The types of profiles obtained are illustrated in Table 2. The raw scores at the left can be interpreted only on the basis of experience with the test. The profile scores at the right can be interpreted directly: Case 1 is relatively light on W and sum C , heavy on Dd and slightly heavy on M . Any pattern where all profile scores in a pattern are close to zero is "normal," i.e., normal in the population used as basis for normalizing. Case 3 has "normal approach," and also has "normal experience balance." Cases 1 and 2 would be considered as having no significant difference in approach pattern. Both have the pattern (W) D Dd , the parenthesis signifying underemphasis on W .

The assumption that equal profiles are psychologically similar may be checked by examining the patterns of raw scores leading to the same profiles. For this reason, Table 3 has been prepared. The reader can determine whether, in his judgment, the records in each column represent a similar approach.

The normal approach for Rieger's norms, when R is 30, is computed to be 7 W , 21 D , 2 Dd . This compares with Beck's experience that normal approach is 6 W , 20 D , 4 Dd . It will be noted that the normal percentage of W drops as R increases. This seems to the writer to be psychologically sound. It is relatively harder to give additional W than to give additional D ; a productive person tends to exhaust the possibilities of W . Whereas Table 3 could be computed from the conversion tables, a similar analysis is not possible for the experience type, because M , $sum C$, and F do not total to give R . To demonstrate what response patterns are taken as similar, it has been necessary to examine actual records found in the Rieger data.

TABLE 3
Scores Yielding Similar Approach Profiles

R	Normal approach Profile close to 0, 0, 0			Heavy W , light D Profile close to 15, -15, 0			Light W , Heavy D & Dd Profile close to -16, 8, 8		
	W	D	Dd	W	D	Dd	W	D	Dd
10	2	7	0	6	4	0	0	9½	½
20	5	14	1	11	9	1	1	17	2
30	7	21	2	15	12	3	2	24	4
40	9	26	5	19	15	6	3	31	6
60	12	36	12	26	21	13	5	39	16
100	20	53	27	40	34	26	8	56	36

"Normal experience balance" (M'' - $sum C''$ - F'' close to 0, 0, 0) is found for the following sets of scores:

M 1, $sum C$ 2, F 9 (R 15)
 M 2, $sum C$ 3½, F 13 (R 22)
 M 3, $sum C$ 4½, F 15 (R 26)
 M 3, $sum C$ 5, F 25 (R 41)
 M 7, $sum C$ 8, F 38 (R 64)
 M 11, $sum C$ 15½, F 56 (R 106)

Normal balance, of course, is that defined statistically by the sample used as a basis for normalizing.

A second illustrative comparison is a constriction pattern: M'' - $sum C''$ - F'' approximately -5, -10, 15. This is found in the following records:

M 0, $sum C$ 0, F 14 (R 16)
 M 1, $sum C$ 1, F 24 (R 29)
 M 2, $sum C$ 2½, F 33 (R 44)

These samples are advanced as evidence that patterns taken

as equal are acceptably so, within the usual definition of similar patterns in Rorschach analysis. It will be recalled that patterns have been equated by an entirely objective process, in which judgment did not enter after the original three scores were selected.

Plotting of Patterns.—In order to plot three scores at once, so as to make a frequency distribution of the patterns, one would normally need a three-dimensional graph. Since three of the profile scores add to zero, there are only two degrees of freedom and the patterns can be plotted on a flat sheet. Instead of the usual rectangular graph, triangular coordinates are recommended. While these are unfamiliar, they place an equal emphasis on each of the three elements in the pattern and facilitate interpretation of results. Rectangular paper can be used, in case of necessity.

The triangular plotting system is illustrated in Figure I. On this sheet are *three* axes, which may be given any desired labels. In this figure, the axes have been labelled for plotting the approach pattern. W'' is plotted on the vertical axis, using the scale at the left of the chart. D'' is plotted on the axis which slants downward to the left, using the scale numbers written across the middle of the chart. All points on a line perpendicular to the D -axis have the same D'' value. If a point is plotted by its W'' and D'' values, the Dd'' values automatically fall in the right place with reference to the third, or Dd'' axis. Description of the operation of the coordinate system is difficult, but it quickly becomes familiar with a little practice in plotting. To help the reader work the system out for himself, the following sets of scores have been plotted in Figure I:

- A ($W'' +5, D'' -10, Dd'' +5$)
- B ($W'' 0, D'' +7, Dd'' -7$)
- C ($W'' +5, D'' +10, Dd'' -15$)
- D ($W'' -20, D'' +15, Dd'' +5$)

Small errors of one point, due to rounding off in figuring profile scores, may cause concern here. In practice, a set of scores such as $+15, -10, -6$ is plotted as if it were $+15, -10, -5$, the third figure always being altered.

The frequency distribution of patterns of scores in any group

is made by plotting each pattern as a dot on the sheet. Where two people have the same score, dots are placed close together. Class intervals are not used in this stage of the work. When plotting is completed, one has a scatter diagram that can be

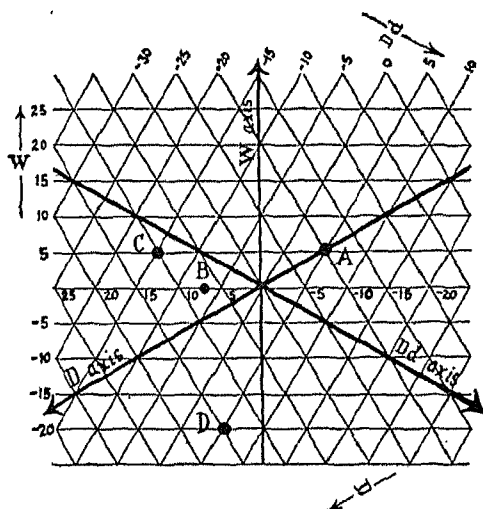


FIG. I. Coordinate sheet for plotting approach

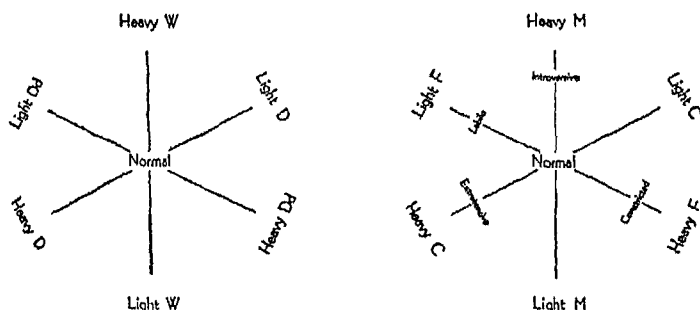


FIG. II. Interpretation of plotting sheet in terms of regions

very informative. Before illustrating this step, the interpretation of the regions of the chart will be discussed.

Figure II shows a plotting sheet with regions indicated. Any pattern falling in a given region has certain psychological characteristics. Cases having relative emphasis on *W* always fall toward the top of the chart; low *W*, at the bottom. Cases near the center of the chart have the "normal" pattern. Cases

where D'' is greater than Dd'' fall on the left side of the chart. Particular patterns, such as $\overline{W} (D) Dd$, can be located; this one would fall in the right upper region, near the line $Dd'' = 0$. As with the plotting itself, this system of interpretation is best learned through experience. Analogous procedures can be used for plots of other patterns, such as the experience balance.

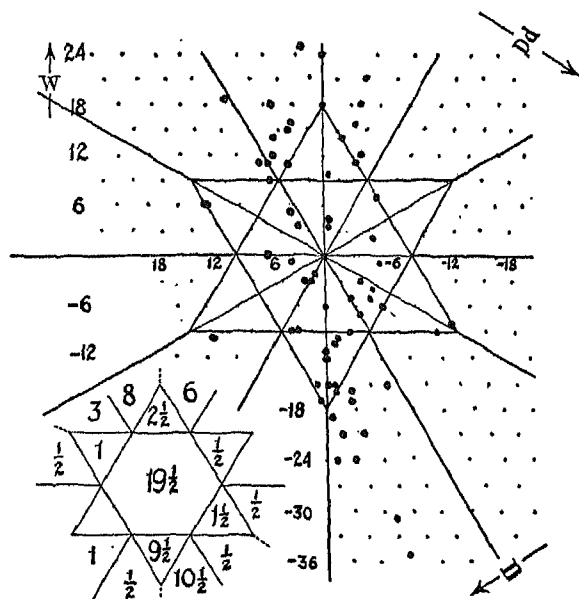


FIG. III. Frequency distribution of approach patterns for 65 clerical workers

The frequency chart made of dots is worth direct study because it suggests directly what patterns are common among the cases under study. Before statistical judgments can be made, a method of counting frequencies is needed. The only method which seems adequately flexible is as follows:

1. Subdivide the chart into regions by marking more heavily the lines where W'' equals $+5$ and -5 ³; this cuts off cases having exceptionally heavy or light W .
2. Continue subdividing with the lines $D'' = +5$ or -5 , and $Dd'' = +5$ or -5 . These lines, connected, form a six-pointed star.
3. Draw lines bisecting each elbow and lines radiating from the

³ In the Rieger data, used in subsequent illustrations, $+9$ and -9 were used, due to the original choice of 15 for sigma.

points of the star, as shown in Figure III. The chart is now divided into the areas which take the place of class intervals in the present method. Smaller divisions might be desirable but would be cumbersome.

4. Count the number of dots falling in each area. When a dot falls exactly on a dividing line, count one-half in each of the two areas. In the rare case where a dot falls exactly on a point of the star, or exactly at the elbow, always divide it between the two outermost areas, rather than divide it into more than two portions.
5. When preparing a frequency diagram for a basic group such as men-in-general, with which other groups or cases are to be compared, combine adjacent areas having small frequencies.

The above procedure is illustrated in Figure III, using the data on approach for 65 clerical workers. This group is large enough to illustrate the process fairly, but easier to examine than the chart based on the larger group of men-in-general.

The scatter diagram gives the impression that cases are widely scattered, roughly along the vertical line where $D'' = Dd''$. As the frequency summary (inset) shows, $19\frac{1}{2}$ cases fall in the central "normal approach" region, with most of the other cases piled up in the top, W'' heavy, sector, and in the bottom right, W'' light and Dd'' heavy, sector.

Comparison of Groups.—The meaning of a distribution lies in its comparison with other distributions. Such a comparison is the pay-off in most research studies. As an illustration of the proposed method, the clerical distribution on approach will be compared with the total group of men. The distribution for men-in-general is given in Figure IV. This distribution is superficially similar to that for clerical workers. It will be noted that adjacent areas having small frequencies have been combined. The areas have been labelled for convenient discussion.

The next step is to make a more exact comparison of the distributions. The method found most convenient is that of computing what per cent of cases in each area are clerical cases. For the entire sample, the clerical workers constitute 25%. For the regions, the clerical percentages are A, 17% ($19\frac{1}{2} \div 117\frac{1}{2}$); B, 20%; C, 35%; D, 34%; E, 33%; F, 15%; G, 17%; H, 45%; I, 33%. In other words, the concentration of clerical

workers is relatively heavy in the side region E, the top regions C and D, and the bottom regions H and I, and is relatively light in A, G, and F. Since the number of cases in some areas is very small, no direct conclusions are drawn from this computation. It serves, however, to permit setting up reasonable hypotheses for statistical test. It would be unsound to test every small area for significant differences, since there would be too few cases per category. It would be impractical to test every possible combination of adjacent regions for significance; there are too many possibilities.

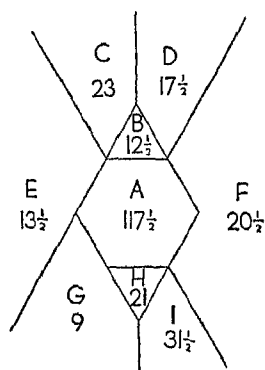


FIG. IV. Distribution of approach patterns for 266 "men-in-general"

From the percentages in regions, one sets up hypotheses which are psychologically meaningful and reasonably likely to yield significant differences. One must not choose arbitrary combinations of areas, since even in a chance distribution some fortuitous departures would give "significant" chi-squares. But it is probably no accident when high percentages fall in adjacent areas such as H and I. Hypotheses tested for the present data are:

- (1) Clerical workers show normal approach (Region A) less commonly than workers-in-general-excluding-clericals.
- (2) Clerical workers have underemphasis on W (Regions G, H, I, and portions of E and F below $W'' = -9$) more often than other men.

Of course many other conceivable hypotheses can be tested, either by grouping the regions shown or by subdividing the

surface into other reasonable regions. One might cut on the line $D'' = 0$, forming regions where D'' is positive and negative, or one might cut along the vertical meridian, forming regions where $D'' > Dd''$ and $D'' < Dd''$, etc. Whether this is desirable depends on one's psychological hypotheses about clerical workers, on the number of cases, and on the appearance of the scatter surface.

To test the first hypothesis, one determines from the frequency distributions the following frequencies:

	<i>All cases</i>	<i>Clericals</i>	<i>Non-clericals</i>
Number in A	117½	19½	98
Number not in A	148½	45½	103
Total	266	65	201

Chi-square is then computed for the 2x2 table, yielding a value of 6.9 ($P < .01$). Rieger's clerical workers show normal approach significantly less often than other men tested. To test the second hypothesis, it was necessary to return to the scatter diagrams to determine the frequencies falling below line $W'' = -9$. There were 22 clericals and 44 other men so located. Chi-square was then found to be 3.8. The concentration of clerical workers above $W'' = +9$ is even less significant.

In view of the large number of hypotheses that are tacitly considered, the significance test for any one hypothesis must be evaluated conservatively. Yates' correction should be applied to Chi square where relatively small groups are compared.

In some cases, the graphic method just demonstrated has no advantage over a simple test of differences between mean profile scores. In general, however, in research on personality it is more important to know the frequency of different patterns than any composite or average for the group. And at times the graphic method gives more information than a test of differences in means. Mean W'' for clericals is -1.5 ; for non-clericals, 0.0 . But this difference does not point out that profiles with heavy W are as common among clerical workers as among other groups, and that the difference consists of an excess in light W at the expense of normal approach. This finding is of course not finally established by the small number of cases treated in the graphic procedure, but it is at least turned up for scrutiny.

Similar procedures are used for comparing any two groups on any pattern.

Evaluation of Method

The foregoing account presents the procedure for pattern tabulation as it is now worked out. It has been found practicable and capable of yielding meaningful results with the Rorschach test. Therefore, we now have a method which deals with patterns, describes the distribution of patterns within a group, and compares groups.

The method must be evaluated in the light of its limitations, the first of which is the assumption by which patterns are defined. Unless the investigator is willing to admit, for example, that the person at the 70th percentile on *M* and on *sum C* is equally strong in these two components, the method will be unacceptable to him. Second, the method allows unusual weight to small and unreliable differences in some raw scores, notably in the case of very low *Dd* scores (see above). Third, the method is most appropriate when patterns can be considered to be uncorrelated with the general factor underlying all three scores. If, for example, people with high *R* also tend to have constricted *M-C-F* patterns, two groups might be found to differ significantly in pattern, even though this difference could be accounted for by one group's having a higher average *R*. If this is the case, the only solution is a more complicated method, requiring far more cases, which compares patterns within matched sub-groups having the same distribution in the general factor. From the Rieger data, there appears to be little dependence of *M-C-F* pattern upon *R*. There is a trend for cases with high *R* to under-emphasize *W*. The profile method should be used with caution when comparing groups with large differences in the general factor.

Patterns will be correlated with the average of the normalized scores whenever two of the three scores are correlated especially highly. If the three scores have about equal intercorrelations, this is not a problem.

The user of the pattern tabulation method must therefore analyze his scores to know what he is dealing with. With the Rieger data we have the following correlations (tetrachoric): *W''* with *R*, $-.50$; *M''* with *R*, $-.10$. Ideally, these would be zero; the fact that they are not indicates that the method falls

short of parsimony, and that differences in W'' particularly may duplicate differences in R . This linkage of W'' and R can be shown to result from the high correlation of D' and Dd'' , discussed below. If these components of the profile were more independent, the pattern tabulation method would be more satisfactory for approach.

In the writer's mind, the most stubborn limitation and the most crippling, is the impossibility of extending the method to more than three scores. There may be an algebraic approach which will prove adequate, but the advantage of visualizing the frequency distribution would be lost. As the number of dimensions increases, the number of possible combinations of scores jumps geometrically. If each score is considered in only three coarse class intervals, one dimension offers 3 patterns, two dimensions yield 9, three dimensions permit 27 patterns, and so on. The pattern tabulation method always requires large numbers of cases for meaningful results, in view of the complex hypotheses which can be tested. An impossibly large number of cases would be required to test the many ways in which two groups could differ in patterns of four or five scores.

The development of a complete statistical system for patterns has not been attained. Some of the statistical features to be considered in any future development should be noted.

1. This paper has relied entirely on the concept of the frequency distribution. The next step in a system is a measure of central tendency. For this, the mean must be used. There is a centroid where $W'' + D'' + Dd'' = 0$, but there is no uniquely determined median for the frequency surface.

2. A measure of dispersion cannot be developed readily. One may determine $\sigma_{W''}$, $\sigma_{D''}$, $\sigma_{W'' + Dd''}$, and so on for every radial direction. This is the standard deviation of the distribution when all cases are projected on the radial line. One can, for example, compute $\sigma_{D''} - Dd''$, which is the s.d. of all cases along the horizontal direction. These dispersion vectors (they have both length and direction) can be connected to form a curve, but they and the curve have little meaning.

A better way to measure dispersion is to divide the surface into sectors by radial lines through the centroid. If these are

narrow, the standard deviation of cases within the band defined by vertical angles is a meaningful measure of dispersion in that dimension. Granted enough cases, one can determine this vector in each sector, and connect the vectors to obtain a curve of dispersion which contains approximately the central two-thirds of the cases.

The only way to obtain a single estimate of dispersion is to define what vectors are equivalent. Suppose the mean is 0, 0, 0 is the distance to W'' 6, D'' -6, Dd'' 0 equivalent to the distance to W'' 0, D'' 6, Dd'' -6? If any such assumptions can be made, the dispersion problem is simplified, with some loss of information about patterns.

If we assume that equal distances in all directions in the plane are equal, and take as our unit of measurement the perpendicular distance between the lines $W'' = 0$ and $W'' = 1$ (rather than the distance along the slant axis), the following relations hold:

Distance between two points =

$$\sqrt{\frac{4}{3}[(W''_1 - W''_2)^2 + (D''_1 - D''_2)^2 + (W''_1 - W''_2)(D''_1 - D''_2)]}$$

or

$$\sqrt{\frac{4}{3}(\Delta^2 W'' + \Delta^2 D'' + \Delta W'' \Delta D'')}.$$

Standard deviation of a set of points about their centroid

$$= \sqrt{\frac{4}{3}(\sigma_{W''}^2 + \sigma_{D''}^2 + r_{D''W''} \sigma_{W''} \sigma_{D''})}.$$

3. No satisfactory measure of correlation between a pattern and any additional dimension has been formulated. Absence of such a measure is especially unfortunate because it prevents us from comparing differences between two sets of paired measures. It deprives us of a measure of the reliability of patterns and of a measure of changes in pattern for the same group of cases. The essential difficulty is that in such a case, with six scores per person, we are in four-dimensional space.

If we wish to determine whether a fourth variable (call it S) is correlated with the pattern under consideration, a method of curvilinear correlation can be employed. By dividing cases into groups according to S -score, determining the variance of

patterns for cases in each group, and the variance about the grand mean, one can determine whether there is a significant change in mean pattern with change in S . But changes in the distribution of patterns would not be uncovered, and this might be more important.

In summary, one may conclude that the present method has virtues, and should be useful for many problems not previously manageable. It has definite limitations, and needs further development. The writer would recommend its application for the Rorschach patterns and for the Wechsler test. In the latter case, it might be especially profitable to study statistically a profile based on such groupings of the subtests as Rapaport proposes, e.g., Verbal, Attention, Visual Organization. The procedure also has potential value for multi-score instruments used for educational evaluation, reading diagnosis, etc.

The proposed method has considerable similarity to Penrose's procedure for deriving a discriminant function (5). A discriminant function is that weighted sum (or quadratic function) of the given scores that best differentiates members of two groups. Penrose arrives at his discriminant formula by taking the sum of the normalized measures ("size") and a second weighted sum which represents the "shape" of the profile. Any discriminant function must assume that quite different patterns of scores are interchangeable, since it reduces n scores to only one dimension. Apart from this limitation, however, Penrose's method should prove very useful, especially as it can cope with patterns comprising any number of scores.

Incidental Remarks

It was the original purpose of this study to investigate a statistical method rather than the Rorschach test itself. One incidental finding is too provocative to be ignored. When a correlation is obtained between the conventional scores W , D , and Dd , it is expected to be high, due to the common influence of productivity. The tetrachoric r 's (for either raw or normalized scores) are, for the Rieger cases, $W \times D$, .42; $W \times Dd$, .50; $D \times Dd$, .87⁴. This raises the serious question whether differ-

⁴Product-moment correlations for raw scores are always lower because of the extreme non-linearity of regressions. For normalized scores, the correlation surfaces are near to normality.

ences between D' and Dd' are not primarily due to errors of measurement; it is almost inconceivable that two estimates of D for the same person would correlate much higher than .87. If the correlation between D and Dd , corrected for attenuation, is nearly 1.00, the two scores are not measuring different psychological characteristics in the majority of cases. There are only 35 cases out of 266 where the difference between normalized D and Dd scores is as great as one standard deviation.

The writer would not attack the psychological foundation of the approach score. Use of the test demonstrates that in some cases a difference between use of normal details and unusual details has psychological significance. But the $D'-Dd'$ difference appears to be a poor measure of the psychological characteristic, since most differences between D' and Dd' in individual records can be attributed to chance.

The implication of the present finding seems to be that the scoring categories should be refined. In the Beck method of scoring particularly, there seems to be no psychological difference between some of the less common large D and the larger unusual details. The writer believes, subject to verification or correction when evidence is obtained, that the approach categories can be refined to have much greater psychological meaning. The procedure of refining categories by correlational methods is common in other testing and should improve the Rorschach. The following different types of responses are available for consideration:

- Instant wholes (in Beck's terminology)
- Organized wholes (in Beck's terminology)
- Normal details; sub-Gestalts of the blot
- Large, but not normally used, details; scored Dd by Beck, dr by Klopfer
- Small details, broken off from the Gestalt; scored Dd by Beck, dd by Klopfer.

Instant wholes, normal details, and large but uncommon details seem to represent much the same psychological process of perceiving. The organized wholes and the tiny details appear to represent basically different approaches. The writer would therefore advocate experimentation with a new approach system based on three scores: W_o , normal Gestalts

(W_i , D , and probably dr), and dd . A study of the correlations between scores will indicate the extent to which they represent psychologically different behaviors.

One important caution is called for. The Rieger group of superior men is far too atypical to be the basis for a firm conclusion about the proper scoring of the test. The correlation between normalized scores must be recomputed on a more typical sample before the above speculation can be finally accepted.

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SOME VOCATIONAL COUNSELING METHODS

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THE diverse new developments during the past decade in the broad field of counseling and psychotherapy have not been fully exploited because it has been difficult to integrate them. Anyone who has tried, for example, to bring together the contributions of the "directive" and "non-directive" groups will attest to this difficulty. It is particularly apparent to anyone guiding the work of graduate students in counseling; after the student has read numerous books and articles it is discovered that he possesses many separate units of valuable information but is unable to relate them or to work out a consistent technique for actual counseling use. This paper will attempt an integration of some of these diverse developments as they apply to vocational counseling and will do this by listing and describing five practical steps which the counselor may follow in his day-to-day counseling. It will attempt in particular to suggest how the permissive quality of non-directive counseling may be combined with other vocational counseling techniques to effect an over-all improvement in method.

But before listing these five practical steps, several qualifying remarks should be made. The vocational counseling practices to be described may be used by the counselor as part of the "core" or "foundation" of his technique, and should not be thought of as a suggested complete procedure, or even as a complete set of basic procedures. Even if space were available to permit the writing of an entire book on a complete counseling technique, it would be a mistake to do so because there can never be a complete procedure which fits all cases. There must be, instead, as many variations in counseling procedure as there are individual problems, with each problem demanding that combination of methods and tools best suited to assist the individual in its solution. It should therefore be clearly

understood that the suggestions to be offered below are but several basic steps or methods which may be employed as the habitual core of an entirely flexible counseling technique. In view of its purpose, the paper will not attempt to cover the whole field of vocational counseling nor to discuss particular types of vocational problems.¹

None of the methods presented below is new, and several at least are regularly used by many counselors; no assumption of originality is being made. There is need for their greater dissemination, for as yet too few counselors know of them. And there is the need already mentioned of bringing together the various methods and presenting them as workable counseling techniques. It of course ought to be kept in mind that this is but one effort at integration; the writer's thinking has been helped significantly by the writings of the workers cited herein, and it is to be hoped that this paper in turn will stimulate publication of other methods.

Five Vocational Counseling Steps

Below is an outline of five suggested basic steps or methods. In actual counseling these steps are not discrete; one phase ends and another begins without a break, and often they overlap. And they occur only approximately in the order given. But for purposes of presentation it is necessary to divide arbitrarily and explain separately.

1. In the early phase of counseling the non-directive method of counseling is used. Whether this method is used beyond the early phase will depend upon the nature of the problem as it emerges.

2. Assuming that the problem is partly or entirely vocational in nature, the problem is thoroughly explored before tests are taken. This exploration may reveal that test results will contribute nothing to the problem's solution and that therefore tests need not be given.

¹ There does seem to be a need for more writing on particular types of vocational problems, and it may be urged that more "clinical" type writing be done by counselors, in which they present complete case-records of vocational and educational problems, mild maladjustment, and other problems falling in the normal behavior range—the province of the counselor—and thus parallel what is being done by clinical workers in the abnormal areas. It is quite probable that such efforts would result in discovery of typical problems or "syndromes" in these normal areas. See Brodin (4) for findings of this type.

3. When it appears that test results will contribute to solution of the problem, the counselee is given an active part in selecting the tests he will take.

4. Counselee is given access to a vocational information library and encouraged to use it independently whenever questions about vocations arise in the interview.

5. In interpreting test results and in presenting or summarizing other information, the counselor employs an objective, impersonal approach, and seeks to increase counselee's self-acceptance and to assist him in reaching a decision.

1. *In the early phase of counseling, the non-directive method of counseling is used.* This method of counseling will be known to many readers and need not be described in detail here; those unfamiliar with non-directive counseling should acquire a thorough familiarity with it as a necessary pre-requisite for using the methods presented in this paper. Rogers (8) *Counseling and Psychotherapy* continues to be the best general presentation of a non-directive technique, but Roger's technique should not automatically be assumed to be the only or best non-directive method; important additions, modifications and criticisms have been made by other workers (2, 3, 5, 6, 7, 11, 14). In brief, four things stand out in non-directive counseling:

- a. Counselor structures the counseling relationship so that counselee (1) learns that responsibility for progress rests with him and (2) is helped to take responsibility and move ahead.
- b. Counselee's statements rather than counselor's statements, give the interview its direction.
- c. Counselor learns to recognize feeling underlying client's statements and reflects it, thereby aiding progress in self-insight.
- d. Counselor assists counselee's further progress in self-insight and self-acceptance by rewording, synthesizing, and summarizing what has been said.

We are suggesting, then, that the counselor use non-directive methods in the early phase of vocational counseling and continue their use as long as the nature of the problem demands. His purpose will be to create such a relationship between himself and the counselee that the counselee's concerns determine the direction and content of the interview. To make this direction

by the counselee possible the counselor must in some way see that he does not consciously or unconsciously cause his questions and comments to direct the interview; rather, he must see that the relation remains unstructured, open, flexible, and permissive. Only through creation of this permissive counselee-guided relationship have we any hope that deeper, unrealized true problems will emerge, and that our counseling effort will be effective in any significant degree; for it is common to find that the problem, as originally stated by the counselee, changes as counseling proceeds and may turn into something quite different. A first requirement of an effective counseling method is that it be able to clarify the problem—bring out its true nature—in the early phase of counseling.

There are two factors which often operate to cause the originally stated problem not to be the real one, and which often make an effort at straight-forward solution of the stated problem a questionable procedure; these two factors are (a) superficial analysis and (b) emotional involvement.

It is usual for the client to have made a superficial analysis of his problem and his initial statement of it will reflect his faulty analysis. For example, a student came to the counselor stating his problem to be an inability to choose a vocation; discussion brought out the contrary fact that he was quite certain of his vocational choice but was unable to find an advanced school which was not overcrowded and would admit him. No research investigations were found on the extent of these superficial analyses (and the consequent later shifting of the problem), but the frequency of their occurrence will not be questioned by practicing counselors. Evidence of another type is available if these cases of superficial analysis be recognized as but special instances of the common phenomenon of problem solving. The research of many years standing by John Dewey and others on the problem-solving process brought out the fact that the individual, when faced with a problem, often incorrectly perceives and formulates it or makes a vague superficial analysis and that this early "getting off on the wrong track" was a frequent cause of difficulty in solving the problem. A correct reformulation sometimes made simple the remaining stages of the solving process. Similarly, in counsel-

ing practice, many individuals will be seen who have been unable alone to solve their problems because of faulty analyses, and are now seeking professional assistance. Through counseling they may be helped to clarify their difficulties and move ahead to independent solutions in due course. With these cases, counseling may be regarded essentially as assisting in problem solving; by keeping this fact in mind the counselor may be able to avoid making counseling more complex than it need be. Some method of counseling must be used which aids the counselee to think through and clarify his problem; the non-directive method satisfies this requirement because the counselee's thinking guides the interview, the relation is open or permissive, and the counselor endeavors to make remarks which aid insight. Failure to use clarifying techniques of some type at this early point invites the risk of completing counseling without the true problem's having been discovered and the individual's going away somewhat disturbed and dissatisfied yet not knowing why himself.

The second major cause of incorrect statement of the problem is emotional involvements. The counselee may complain of such things as inability to choose a vocation, uncertainty as to his ability for the occupation of his choice, dissatisfaction with present vocation, etc., but as counseling proceeds it sometimes becomes evident that these problems are but symptoms of deeper maladjustments which are unknown to the counselee. Of course it does little good to merely treat the symptoms, in this case to give vocational counseling, without first removing the underlying cause. In fact, counseling seldom can make any progress until the underlying maladjustment be removed and, it may be added, when the underlying problem has been treated and removed, the vocational problem often simply disappears.

In recent years there has been increasing recognition of the role of emotional involvements in vocational problems. Williamson and Bordin (13), Bixler and Bixler (2), and Bailey, Gilbert, and Berg (1), to mention several, have written on the subject. The Bixlers conducted a study which has direct experimental bearing on what has been said here; they studied fifty cases of students who voluntarily came to the counseling

office and were counseled by the same counselor, using non-directive methods. Comments made by the student in his initial statement of the problem were compared with his concept of the problem at the end of the interview. Twenty-two per cent (11 cases) decided their problem was entirely different; they came seeking vocational or educational guidance but at the conclusion felt their problems to be emotional in character. Forty-four per cent (22 cases) retained their desire for vocational guidance but included emotional difficulties in their concept of the problem. The remaining thirty-four per cent may have made minor changes in their concept of the vocational problem but in no way indicated that there were other complicating factors. While future studies using larger samples may change these percentages somewhat, the over-all fact is established that a significant percentage of vocational problems have emotional involvements. If counseling is to be effective it must treat the emotional aspect. The non-directive method of counseling has been shown to be particularly well suited to counseling of emotional and emotionally involved problems.

If the point is accepted that the early portion of counseling should be non-directive, then practical questions arise as to how this may actually be accomplished. Fortunately, non-directive technique has been excellently presented (8) and complete case-records and practice material are also available (10, 12, 3); there is therefore no need to devote space to detailed general exposition here. But there is need for a practical relating of non-directive technique to vocational problems. Rogers and the others who originally developed this technique were clinical counselors and perfected it for use with emotional maladjustments and other more serious problems. The method possesses no fundamental limitation for vocational counseling but must be adapted to this new class of problems. This adapting is being carried forward (2, 3, 5, 6, 9, 10, 14). There remains the need to show how testing and other of the accepted vocational guidance aids may be fitted into this early non-directive structuring of the counseling relationship and to show its possible place as counseling proceeds. In order to give the reader a complete picture of the practical application of non-

directive method to vocational counseling, the following discussion will begin at the beginning of counseling when the counselee comes in, states his problem, and the counselor attempts to structure the relationship along non-directive lines.

This structuring of the relationship and placing of responsibility for progress upon the counselee is accomplished by the counselor's making appropriate remarks during the early interviews and also by his making the client take the initiative in coming for the interview, by the counselor's taking a following role in the conversation, by the counselee's having to make all decisions, and by still other actions. The following is an example of a typical statement intended to define the relationship:

Let me give you some idea of how we may use our time here. I can't solve this problem for you, nor will a test do it for you. No one can solve another's problems. But what we can do is this: A person is usually able to work out his own problems if he is able to talk them over with someone and get some new ideas, discover new ways out. And sometimes taking a test and talking over the results helps. So if you would like, we can think along on this together. Would you care to tell me a little more about this difficulty?

In this statement the counselor attempts to help the client to see how he can solve his own problem, and he also subtly shifts the responsibility to the client. The general question at the end serves to turn the conversation back to the client so that the "talking together" may begin with the client's next statement. It is uncommon for the idea of this new relation to be grasped immediately, so the usual thing is for the counselor to restate it in different words several times during early interviews.

Note also in this defining statement how the counselor indicates at this early point the function of tests. Indispensable as tests are in vocational counseling, they are also a source of headaches because there are popular misconceptions about them which hamper counseling. Many students have the idea that by taking "those vocational tests" (or "*that* test") they will be told at the end what they should do. Regardless of the method of counseling being used, it is usual to have to spend some time early in counseling explaining what tests can and

cannot do. (The misconceptions can be attributed in part to dramatizing of tests by the popular press, but the main guilt seems to rest upon misinformed educators and incompetent counselors. Both the latter publicize vocational guidance as giving tests and usually never mention its essential counseling, i.e., thinking through, aspect.)

Testing has been particularly difficult to fit into non-directive counseling and Rogers (8), in his zeal to get away from earlier misuses of tests, leaves his reader with the impression that they are unnecessary. But vocational counselors probably are universally agreed that their various types of tests—intelligence, aptitude, interest, achievement, personality, adjustment, etc., are essential tools of vocational guidance, though this is not to say that they must automatically be given to every client. Because of its omission of testing, the Rogers non-directive method is incomplete in the vocational area. Muench (7) suggests from his research that some of Rogers' fears about testing in non-directive counseling are groundless, and that tests may be given before and after counseling without harm to the non-directive relation if their purpose is explained to the client.

One way of informing the counselee of the place of tests is to introduce them as part of the defining statements, as was done in the above example. In his defining statements the counselor lets the client know that tests will not solve his problem but that they may help him find answers to some of his questions; he is told that the counselor will let him know when a test may be of assistance and the client can decide whether he wants to take it. Another example of such a defining statement follows, preceded by a typical client statement of the problem. (In actual counseling, considerable discussion may intervene between client's opening remark and counselor's first defining statement.)

Client: I came in to take those vocational tests. I can't decide between teaching and library work and have changed my major several times. Maybe the tests will tell me what to do.

Counselor: Well, now, taking tests will not tell you whether to go into library work or teaching, because tests can only give you information about yourself and can-

not give you a decision. Nor can I tell you which to choose. But we can explore the two possibilities together if you wish, and maybe you will be able to see the merits of each better and be able to reach a decision. And if there is something you find you need to know that a test will tell you, I'll mention a test and you can decide whether you want to take it. (These defining remarks need not be made in one continuous speech; plenty of opportunity is usually found to state the main ideas in a variety of ways.)

Where a receptionist is employed in the counseling office, she may in her brief contact with the client do much to let him know how he can use counseling and may also correct some incorrect impressions. This point is very well exemplified by quoted excerpts for interview records given by Bixler and Bixler (2, p. 188). It may also be mentioned in passing that the pre-interview information form, which many counselors have clients fill out before the first interview, can be prefaced by a brief introduction so worded that it defines the purpose of the form and of counseling in general. If properly worded, there need be no danger of giving the client an impression that someone else will solve his problems for him.

Within this non-directive structuring, then, misconceptions regarding tests and the roles of counselee and counselor are corrected and thinking goes forward on the problem, presumably to its greater clarification by the counselee as discussion continues. In this the counselor will use the basic methods of non-directive counseling (8). Presumably, too, some idea of the nature of the problem will be gained rather early by the counselor and he will need to decide on the basis of this the method of counseling he will use for the remainder of the time. That is, the question of how long to continue being non-directive will have to be answered for each new case. It is suggested that the counselor continue in a general way being non-directive throughout; that is, continue causing the counselee to accept responsibility for the solution of his problem, let his concerns mainly guide the direction of counseling, continue being sensitive to underlying feelings, and continue using all means to foster self-insight. But to be more specific, some problems will emerge in the early period as emotional ones and

with these the counselor often will want to continue using regular non-directive therapy methods throughout. Other problems will emerge as true vocational concerns but with considerable emotional involvement; these are usually best helped by continuing with an essentially non-directive method but flexibly employing tests, occupational information, interviews with potential employers or academic department heads, etc., as the counselee brings up pertinent matters. Still other problems will emerge which will be recognized as straightforward cases of need for vocational information and the need for assistance in assimilating it (examples: determining relative ability for two occupations; verifying relative interest in several fields; learning about one's abilities and interests and locating appropriate occupational possibilities). With this latter class of problems one may shift to a direct procedure which attempts to thoroughly and systematically bring together all necessary information, and which employs the four methods described in the following pages in assisting the client to evaluate the information and to arrive at a choice. (Further important discussion of types of problems and counseling methods will be found in the following references: 4, 6, 9, 14.)

2. *Problem is thoroughly explored before tests are taken.* Before anything is done about taking tests the counselor and the client talk through the problem and attempt to bring out all of its facets. This point, which at first may seem obvious and a mere repetition of what has already been said, is made because an opposite common procedure is to give a battery of tests sometime early in counseling, before the problem has been explored, and to use the test findings as points of departure in subsequent interviews, particularly the interest test results. No research has been done on the relative merits of these two opposing procedures, hence there is no evidence available to show that the procedure being recommended here is superior to the other. Clinical experience with both has caused the writer to prefer the one as being more effective, but it may be that some counselors are able to employ the other approach effectively and without a loss of flexibility.

As any counselor knows, there are many things that may be the core of vocational problems. Besides emotional causes,

there are such common causes as ignorance of interests and aptitudes, general lack of occupational information, lack of specific information about one or more occupations, incorrect notions about otherwise desirable occupations, problems of financing training, problems of relative over-crowding of desired occupations, questions of job security, etc. By talking the matter over and bringing out all the facts, the central aspect of the problem may be brought to light and the next step planned in the light of this knowledge. If the central difficulty turns out to be one of inability to make a choice because of doubt or ignorance of aptitudes or interests, or both, then thinking may properly turn in the direction of tests. But if the central factor of the problem turns out to be a different one from the above common causes (for example, lack of occupational information), then tests would contribute little or nothing, and instead, an entirely different set of resources will be utilized—occupations library, pamphlet material on particular occupations, tryout job placement, advice from placement officer, etc. And even with problems involving questions of interest and ability, often there is no test in existence which will measure the thing in question; time would be wasted taking a battery of tests; other indices have to be sought instead, such as job experiences, avocation, school likes and dislikes, and job tryouts.

Thus it would seem that there is greater efficiency and individualization in an early joint exploration of the problem, before any consideration is given to tests.

3. *When it appears that tests will contribute to a solution of the problem, the counselee is given an active part in selecting tests.* That is, when a question arises in the course of counseling that test results can answer, or if a supposed ability or interest needs quantitative verification, then the client is told of the test (or tests); the test is discussed in terms of the information it will yield; and the client is allowed to decide whether he wants to take it. Bordin and Bixler have experimented clinically with this technique and report on it in an excellent article significantly entitled "Test Selection: A Process of Counseling" (5).

Bordin and Bixler suggest that the counselor describe in non-technical language the information the client can gain about

himself from taking various tests. The client is left to decide for himself which information he wants. But they emphasize that the counselor may often play an important role here in helping the client to decide what he wants to know. In their words, "As he tries to puzzle things out, perhaps struggling with anxieties about the possible adverse results of taking a test, the counselor helps him to clarify his feelings and to overcome the obstacles to accepting himself." The counselor does retain responsibility for selecting the best test for a given purpose, after the client has decided he wants the information. These writers report that most counselees enjoyed the experience of selecting their own tests, though some of them felt incapable of doing it yet always went ahead when the counselor recognized their fears and resistances and helped them to accept themselves. In their summary, Bordin and Bixler state that this test selection procedure facilitates the client's self-understanding, develops deeper understanding of his problem, encourages his taking responsibility for the solution of his own problems, and allows him to make better personal use of the testing experience.

In this permissive situation the counselee is less ego-involved and more self-objective; it therefore sometimes happens that the counselee is able to verbalize a motive deeper than the stated one of wanting test results. This is nicely exemplified by a case excerpt given by Rogers and Wallen (10, pp. 92-93), in which the client wants to decide between the ministry and teaching. He asks to take tests and as they discuss what he wants to learn from testing, he goes on to reveal a personality problem that is at least partially the cause of his indecision. He finally decides to talk with the counselor further about his personal problems and to take tests as well. It is evident that testing and permissive counseling may be combined to decided advantage when refinements in technique are made.

4. *The counselee is given access to a vocational information library and encouraged to use it independently whenever questions about vocations arise in the interview.* It seems to be a rather common procedure for counselors to attempt to supply occupational information themselves as the need arises. Sometimes this amounts to the conscientious counselor's going to sources

himself to track down the needed information. It is proposed as an alternative method that an accessible, easily used, up-to-date occupational library be provided, and that the client be informed of its availability. Then, as various questions about occupations arise in the interview, the counselor can mention the library as a place where answers may probably be found. As was true in the test-selection process, some individuals will doubt their ability to do it alone; the same counselor reaction is in order here as was suggested in our previous topic. Other clients, particularly high-school and youthful college students, will be so immature toward the entire world of work as to react with complete helplessness. The counselor's reaction to these cases may be first to recognize this helplessness, in order that the client may appreciate his present position, and second, to help the client learn to use the occupations file. The client thereafter may go to the occupations library independently, between interviews, to find the answers to questions which arose in the previous interview. In the discussion during the next interview, the counselor should assure himself that the client's impressions from his reading are correct and complete enough for the particular question. The counselor may add pertinent facts and in other ways assist in the clarification process.

These suggestions do not free counselors of their obligation to be experts on vocational information. This obligation seems to be rather well appreciated among present-day counselors; there was a time in the recent past when counselors were relatively well informed on tests but essentially ignorant of occupations.

The end result of this independent occupational study on the part of the client is growth in self-directed problem solving, growth in independence for some, and development of much-needed insight into our complex world of work. This phase of counseling is of particular significance for individuals who have done no thinking about their occupational futures and know nothing about themselves or about jobs. To the writer it seems a serious mistake to do anything other than start these individuals off on a survey of occupations. Counselors who take these clients through interest and aptitude testing and end

by suggesting appropriate occupations to them may be doing some harm and, at best, are doing nothing to assist growth in independent choice and insight into the occupational picture. On the other hand, the counselor who has as his primary goal to assist his client in knowing himself better and in knowing something of occupations has prepared that individual to make better adjustments as he and our ever-changing world of work change.²

5. *In interpreting test results and in presenting or summarizing other information, the counselor employs an objective, impersonal approach, and seeks to increase the client's self-acceptance and to assist him in reaching a decision.* This approach may best be explained by dividing it into two processes: (1) test data and other information are given in a meaningful yet impersonal form with no suggestion as to what the counselee should do; (2) an opportunity is provided for the counselee to express feeling about, understand, self-relate, and accept what he learns—to the end of increasing self-insight and arriving at a choice. By presenting information in an impersonal objective manner the individual must unconsciously go through a process of giving it a personal meaning, and it is this “process of giving meaning” which the counselor may use to help his client know himself better. Reported case-histories show that when this impersonal presentation has been used, significant self-analysis occurs (3, 10). By contrast, when the counselor interprets test data and then goes on to tell his client the occupation(s) the data indicate he should enter, the solution has been reached without that valuable intervening occupational and self-analysis occurring. (Also, there will be frequent rejections of the counselor-make occupational choices. This seems to be one of the weakest points of present-day vocational counseling, with many clients breaking off the relation at this final point and with others apparently accepting the advice but without self-conviction and therefore having to go through counseling all over again later.)

To make these suggestions more effective a typical example

² The writer has completed a handbook of occupations, to be published in the near future, which will assist counselors and students in surveying the numerous college-level occupations. A self-administering interest-locator is being prepared to facilitate the student's use of the handbook.

may be given. Assuming that our previously-given suggestion has been followed of talking over tests with the client and allowing him to decide which he will take, the test results are now before the client and the counselor and the client is anxious to know how well he did on a scholastic aptitude test. He has been considering a law career and a question arose regarding his aptitude for the study of law. One of the best devices to use in presenting this data to him in an objective and impersonal way is to compare his score with those of others and then to give evidence of what it means in terms of success in the activity in question. Thus he might be told that he stood about 60th in a typical group of one hundred college freshmen; practically all students having the same score as he have been able to graduate with at least average grades. Students with the same score as his who enter law school are usually in the lowest quarter of their class (assuming this to be true of the law school in question) and, competition being what it is in law schools, many students of his score have a difficult time and many drop out. The more exact the experimental evidence on the relation between test score, school grades, etc., and the thing being predicted, the more objective may be the interpretation. Parts of the above example were very general because of lack of better evidence. It is often better to be able to say, for example, "Eighty of a hundred students with scores like yours will succeed in college and sixty will get better-than-average grades," though we must be certain that these quantitative facts are comprehended; the method of explanation which is clearest is of course the best. Note that the counselor does not suggest what these findings mean to this particular person. To suggest, "You ought to be able to graduate from college with at least average grades" or "These scores indicate you will do poorly in law school and that you probably will drop out," is a prejudgement and deprives the counselee of an opportunity for independent choice and self-acceptance. When data are given as recommended, the counselee is actually forced from within himself to inject a personal meaning, and if the counseling relationship has been a permissive one, the counselee will feel free to discuss the personal implications with the counselor.

It is at this point that an opportunity is provided for the

client to express feelings about, understand, self-relate, and accept what he learns. Out of this comes self-insight and choice leading to action, providing the counselor has done his part to reflect feeling, clarify attitudes, and avoid blocking progress generally. Poor handling at this point may cause the client to go away with his problem essentially unsolved, or to go away with his head full of information about which he does nothing because no motivation has been aroused, or to go away dissatisfied and critical of the counseling service. Bixler and Bixler (3, p. 151) say of this phase:

When the client begins to apply these predictions to his own plan, deciding what they mean to him, and what he wishes to do as a result of them, the more crucial phases of counseling have begun. The client either integrates the test predictions into his thinking and thus makes use of them or he distorts and rejects them. The more he feels free to discuss his reactions with the counselor, the more likely it is that he will come to a logical acceptance of their significance.

Rogers and Wallen (10, p. 101) also stress this phase of counseling:

No matter how perfectly standardized a test may be, the test results will be of no more use than the client can allow them to be. Assimilating and making use of test information is a problem of feelings and attitudes, and the counselor should not attempt to high-pressure the service-man into saying that he believes the results. Letting him proceed at his own pace, stating his objections or approval, examining why he objects or approves, expressing his feelings freely, will prove more valuable in the long run.

While the above examples and quotations have referred mainly to test results, the same methods apply with respect to the many other things which may come up in the discussion—school marks, work experience, facts about an occupation, placement opportunities, parent's aspirations, etc. With each it is a matter of the counselor's not suggesting the implications but, instead, letting the counselee work toward a personal interpretation, with the counselor assisting by reflecting expressed feeling and by restating, summarizing, and in other ways assisting the client to clarify his concerns.

Discussion

The thinking steps through which the writer went in arriving at these five rather simple methods may be of interest to fellow-seekers. To me, as to many other counselors, the non-directive method seemed a great step ahead, was learned, and put to use. It proved a remarkable tool for assisting college students with emotional upsets, anxieties, inferiorities, and other maladjustments. But the method was hard to apply to college vocational cases and to the various scholastic problem cases. Of course there would have been no difficulty if these different problems were unrelated and could be categorized from the beginning and the appropriate counseling method used. But, as has been brought out already, one never knew when a vocational or study problem would have an emotional problem underlying it—therefore one felt forced to be non-directive yet didn't know how to bring in aptitude tests, study-habits inventories, advice on study methods, etc., without abandoning non-directiveness and risking the danger of missing deeper problems. For several years I attempted to work out a synthesis, and was helped in my thinking by the articles cited herein (particularly those by the Minnesota group), but was unable until recently to solve the problem. Finally when a solution, a synthesis, did come it was so simple that I wondered what perseverations had prevented my discovering it long ago. (It has also made me feel a little apologetic for writing a paper on such apparent and simple methods.) Needless to say, they have provided the integration of vocational methods which was needed in my counseling work, yet are flexible to the point of complete freedom of technique with each new case. They also meet the essential requirement of being appropriate for starting counseling with any case—neurosis, inferiority complex, marital maladjustment, vocational study, etc., before the true nature of the problem is yet known. This last point brings up the need for a universal basic technique; this need has been avoided deliberately in this paper and the discussion limited, for the sake of clarity, to vocational counseling. But, as just indicated, these methods are broad enough to fit all of the different classes of problems.

A glance back over the list of five steps brings out their relatedness and consistency. The relatedness is to be expected because they are in practice one continuous process and have been artificially divided here. Their consistency derives from the fact that all of them rest on an underlying emphasis on the self-directed development or growth of the client. That such internal consistency is essential has already been shown; it would be a simple matter for anyone to write out a long list of suggested counseling steps, but if consistency were lacking, the counselor would find himself attempting to shift from one approach to another and back again. And the consistency of this method has not been achieved at the expense of flexibility, a thing that cannot be said of certain current "schools" of counseling. As much as the underlying point of view of this paper is client-centered or non-directive, the actual techniques are determined by the problem itself and not by allegiance to method. Both the consistency and flexibility have been made possible by beginning with a point of view or orientation and then discovering necessary basic techniques but not attempting to go so far as to specify a final complete method.

Summary

The paper may be summarized by listing again the five steps which may be followed by the counselor as the foundation of his vocational counseling technique:

1. In the early phase of counseling the non-directive method of counseling is used. Whether this method is used beyond the early phase will depend upon the nature of the problem as it emerges.
2. Assuming that the problem is partly or entirely vocational in nature, the problem is thoroughly explored before tests are taken. This exploration may reveal that test results will contribute nothing to the problem's solution and that therefore tests need not be given.
3. When it appears that test results will contribute to solution of the problem, the counselee is given an active part in selecting the tests he will take.
4. The counselee is given access to a vocational information

library and encouraged to use it independently whenever questions about vocations arise in the interview.

5. In interpreting test results and in presenting or summarizing other information, the counselor employs an objective, impersonal approach, and seeks to increase the counselee's self-acceptance and to assist him in reaching a decision.

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A FACTORIAL STUDY OF ACHIEVEMENT IN WEST POINT COURSES¹

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SINCE the very beginning of formal education, teachers have wondered why some individuals are successful in school and others are not. Until comparatively recent times efforts to solve this problem have consisted largely in philosophical speculation. With the advent of factor analysis methods, powerful new techniques have become available for determining the variables which function in the academic situation. The importance of developing a comprehensive and well-defined map of the underlying psychological abilities in this area can scarcely be overestimated since such information would contain vast implications for prediction of educational success and improvement of educational procedures.

Review of Previous Findings

In spite of the importance of this problem, it has received only scant attention in the past. The results of the few studies pertinent to this problem will be summarized very briefly. In a very early study, Schneck (11) found a noticeable but not marked correspondence between verbal ability and performance in literary courses and a similar relationship between number ability and performance in science courses. In a factorial analysis of certain achievement measures, Alexander (1) identified five factors. These were: a "g" factor, comparable to Spearman's "g" factor; a verbal factor, important in English; a practical intelligence factor, which seemed of some importance in shop work and mechanical drawing; an "X" factor common to all achievement variables and especially

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important in science and mathematics; and, a "z" factor which accounted for some of the variance in shop work, mathematics, number tests, and English. Holzinger and Swineford (10) found that school marks in junior high school are a function of general ability, possibly deductive in nature, verbal ability, and a "halo" factor which depends upon the teachers' general opinion of the pupils apart from their scholastic accomplishment.

Ellison and Edgerton (7) studied the relation of the Thurstone primary mental abilities to college marks and found that English is most closely related to verbal, deduction, space, and memory factors. Science grades depend largely upon verbal ability, and language grades depend upon induction, spatial, numerical, verbal, memory, and deduction factors, in that order. Psychology appears to be related to the deduction and verbal factors. Chein (4) found the verbal factor most effective for differentiating between good and poor college students. The number factor was a close second while the spatial factor played only a minor role. In a study of mathematical ability, Blackwell (2) isolated a "g" factor, an imagery factor involving the manipulation of spatial and verbal data, a verbal factor, and an "X" factor, described as the ability to retain data in an exact form and to discriminate between relatively and precisely exact data.

Sisk (12) conducted a factor analysis of certain achievement variables drawn from the freshman engineering curriculum. He extracted only three factors, with one of these being common to all courses of the curriculum except woodwork. Since his data indicate that perhaps an insufficient number of factors have been extracted, it is difficult to evaluate his results. Durflinger (6) analyzed a matrix comprising six achievement measures, grade-point averages, intelligence test scores, achievement test scores, English test scores, music test scores, and personal data scores. Four factors were extracted by the centroid method and the axes rotated to meaningful positions, according to the author. He concluded that the English test and the achievement test could be utilized to predict scholastic success. The variables used were so complex that probably the number of factors which could be present would exceed the number of

measures included in the matrix, hence the results are of questionable value.

From a matrix including such measures of scholastic achievement as final grades in English composition, academic averages, and grades from four sections of an examination in elementary psychology, Carroll (3) identified a scholastic achievement factor which had significant loadings for every achievement measure in the matrix. The author compares this factor to Alexander's "X" factor and Holzinger and Swineford's "halo" factor. He does not believe it represents a "halo" factor, however, since the psychology examination was objective. Another factor was loaded significantly with the English composition grades and the first-year college average. He does not attempt to name this factor because he doubts its validity. No achievement measure had a significant loading on verbal, reasoning, or memory factors. Wittenborn and Larsen (13) studied the factor pattern of achievement in college German courses and found that all significant projections for achievement measures in German language studies appeared on one axis. This factor was called a "language" factor. Since only measures of language achievement were used, it is difficult to evaluate the significance of this finding in relation to the total academic achievement pattern.

Since a wide range of techniques, terminology, and predictive fields have been employed in these studies, it is hazardous to attempt a summary of the common findings. However, the following conclusions seem reasonable: (1) a large number of investigators believe that a verbal factor is present in academic achievement measures; (2) there is some indication for the importance of a numerical factor; (3) some type of factor common to all achievement measures of an academic nature appears likely; (4) a slight indication exists for the presence of spatial, reasoning, and memory factors; and (5) various other factors unique to a particular achievement situation are probably involved.

Description of Data and Procedures

One of the disadvantages of some of the earlier work in this area has been that the non-achievement variables included in

the matrices analyzed have not been sufficiently varied in nature or adequately defined in terms of well-known factors. Many of these studies have utilized inadequate numbers of cases. It has been possible to avoid these difficulties to a certain extent in this study because the matrix included thirteen selected tests from those used by the Army Air Forces during World War II in the selection and classification of air-crew candidates. These tests have previously been subjected to several careful analyses to establish their factor patterns (9). With these well-established landmarks included in the battery, it was felt that psychological interpretation of the results would be considerably facilitated.

At the request of the United States Military Academy, printed tests of the Army Air Forces classification battery were administered to 815 cadets of the class of 1946 in September, 1944. The apparatus tests were administered two months later. The results of these tests were combined with certain achievement measures for the cadets taken from their records at West Point in the junior and senior years. Twelve printed tests, one apparatus test, and eight achievement measures were selected from these data to set up a matrix of intercorrelations to be subjected to a centroid analysis. A brief description of the variables will follow in which each variable will be preceded by a number to identify it throughout this paper and also in the original data from which these intercorrelations were taken (5). More complete descriptions of the tests are given elsewhere (9).

The thirteen tests variables were: (1) Arithmetic Reasoning. This test contained thirty relatively simple multiple-choice items with a thirty-five minute time limit. (3) Spatial Orientation, Part I. The subject was shown a large photograph and several small ones, each of which represented some portion of the larger photograph. His task was to identify the numbered section in the larger picture which represented the same area shown in each small picture. There were forty-nine items with a five-minute time limit. (5) Biographical Data, Navigator Score. Questions about the subject's background were given in multiple-choice form. Sixty-five items in twenty-five minutes were presented. (6) Biographical Data, Pilot Score.

This test was identical with the previous one but was scored for pilot selection rather than for navigator selection. (8) Numerical Operations, Back. Fifty items in simple subtraction and division were given in five minutes. (9) Reading Comprehension. Using technical reading material, thirty-six items were administered with a working time of thirty minutes. (10) Practical Judgment. Thirty situations were described in which the subject was required to exercise common-sense judgment in selecting the most appropriate from a number of given solutions. Thirty minutes were allowed. (11) General Information. One section on flying information and one section dealing with a wide range of topics from music to Russian economy made up a total of 110 multiple-choice questions given in forty minutes. (12) Instrument Comprehension. Pictures of two aircraft instruments, an artificial horizon and a compass, were presented with directions for interpreting the readings. The subject was asked to select one of five views of an aircraft in flight which was consistent with the instrument readings. Sixty items were administered in fifteen minutes. (13) Mechanical Principles. A number of mechanical systems such as pulley arrangements were presented in which the subject was required to visualize the direction of movement of certain parts. Forty items were given in twenty minutes. (14) Mechanical Information. Questions were asked about the operation and function of various types of machinery. Twelve minutes were allowed for thirty items. (15) Speed of Identification. A picture of an airplane was presented with five alternate drawings of aircraft. The subject's task was to select the plane from the drawings which was identical with the test-pictured plane. Forty-eight items were given in four minutes. (18) Complex Coordination. This was an apparatus test, designed to measure the speed and skill with which an individual could make a series of complex reactions. A pattern of lights was flashed on a panel in front of the subject who was seated in an imitation cockpit containing a stick and rudder pedals. His task was to make appropriate movements of these controls in response to the light pattern according to certain rules. His score consisted in the number of problems he could solve correctly in eight minutes.

The remaining eight variables comprised the achievement measures. These consisted of grades received by cadets in their courses of study and ratings given them by fellow cadets and superior officers. These variables were: (30) language grades; (31) mathematics grades; (32) English grades; (33) military topography and graphics grades; (34) tactics grades; (42) physics grades; (45) history grades; and, (37) officer average rating. This represented a weighted composite of ratings of a cadet by his academic instructors, tactical officers, and fellow cadets with weights of five, five, and one respectively. The qualities rated were leadership, attitude, military appearance, and preference in time of war.

The procedure followed in extracting the centroid factors was that described by Guilford (8). Extraction was terminated when the product of the two highest residuals was less than the standard error of the correlation coefficient of the two variables involved. Product-moment correlation coefficients were used. The correlation matrix is not given here because it is available in one of the Army Air Forces Aviation Psychology Program Research Reports (5).

The centroid loadings obtained from the analysis are given in Table 1. According to the criterion of extraction, only seven factors were significant, but an eighth factor was extracted in the event that it should provide a meaningful contribution to the solution. It was felt that this procedure was justified in view of the tentative nature of the criterion of extraction.

Thirty-nine rotations of the centroid axes were carried out using Zimmerman's graphic method (14). An attempt was made to approximate the configuration demanded by Thurstone's simple structure. This objective was not attained, but the deviations from simple structure were not excessive. In the course of the rotations, it became apparent that the eighth factor should be included in the solution if the most meaningful configuration were to be achieved. The rotated factor loadings appear in Table 2.

To obtain some information concerning the independence of the factors obtained, correlation coefficients were computed between the factors. This was done by finding the centroid, or center of gravity, of the test projections best representing a

TABLE 1
*The Centroid Matrix**

Test	I	II	III	IV	V	VI	VII	VIII	h ²
1	644	-236	-212	-261	158	-268	-148	-140	72
3	453	189	391	-174	-202	076	-069	-104	49
5	195	031	034	-128	127	134	-101	033	10
6	238	582	054	158	180	083	-236	133	54
8	318	-290	232	-153	060	-286	-205	054	39
9	667	-064	-346	-122	-233	-031	051	-026	64
10	469	172	-247	-068	-103	040	-135	-040	35
11	456	485	-130	196	-049	-078	-155	189	57
12	546	245	186	-077	-074	-227	090	087	47
13	576	404	-289	070	062	-162	170	-090	65
14	560	382	-398	269	095	-053	102	-086	72
15	387	256	371	-149	-146	070	-044	-100	41
18	406	218	143	-025	-055	-169	192	078	31
30	338	-591	152	252	-100	086	092	091	58
31	729	-377	074	-059	261	178	129	086	81
32	553	-516	-042	-203	198	050	019	141	68
33	815	032	112	-116	183	129	153	-120	78
34	703	045	-237	091	046	133	066	-113	60
37	472	-265	318	287	-040	018	029	-086	49
42	784	-220	-161	-122	254	104	106	145	81
45	508	-499	-125	-061	-217	230	055	-052	63

* Decimal points have been omitted.

TABLE 2
*Rotated Factor Matrix**

Test	I	II	III	IV	V	VI	VII	VIII	h ²
1	06	33	04	49	31	52	03	-05	70
3	04	01	59	02	18	11	27	09	48
5	-04	01	14	22	03	02	02	16	10
6	-22	28	22	-10	-09	-02	11	58	52
8	17	-11	13	19	01	52	10	00	39
9	13	40	02	27	54	15	26	-01	64
10	-06	35	11	14	36	10	10	17	35
11	-06	42	08	-13	17	10	26	50	53
12	05	22	27	03	09	24	50	14	46
13	-08	68	05	08	12	05	36	13	64
14	01	77	00	04	14	-02	22	24	71
15	-02	04	56	-01	10	07	27	10	40
18	06	20	20	-01	02	10	44	07	30
30	72	-06	02	14	12	10	00	-09	58
31	52	18	20	63	07	11	21	08	80
32	40	01	00	64	16	26	11	-01	66
33	24	40	43	48	10	07	34	08	76
34	22	55	17	31	27	01	15	13	58
37	57	14	32	03	02	16	07	00	48
42	34	32	06	65	18	13	27	17	79
45	48	07	08	36	48	03	00	-15	63

* Decimal points have been omitted.

factor in a particular plane. A line was drawn from the origin to this point. Similarly, a centroid was located for the other

factor, plotted against the first, and another line drawn. The cosine of the angle separating these two lines was taken as the correlation between them. The values obtained represent the true correlation between any two factors only to the extent that the tests used to obtain the centroids were pure tests of that factor. This was not the case, of course. Consequently, the correlations obtained represented at best only an indication of the relationship between the obtained factors as represented by the tests within the matrix. Most of the factors proved to be orthogonal but some correlation was demonstrated between the following factors: II and VII, II and VIII, III and VII, IV and V, VII and VIII.

Intercorrelations for seven other achievement variables were available from the original data, but these measures were not included in the matrix for two reasons. First, these variables were not sufficiently different from those in the matrix to justify the additional labor, and second, doublet factors would have occurred due to overlapping specific variance in certain of the achievement measures. However, the factor loadings in the seven factors loaded with the original achievement variables were estimated by a process which will be described. The additional variables were: (40) language grades; (41) mathematics grades; (43) military topography and graphics grades; (44) tactics grades; (46) chemistry grades; (47) tactical officer average rating; and (48) academic officer average rating. It will be noticed that variables 40, 41, 43, and 44 have the same names as some of the matrix variables. This occurred because these courses of study were given in both the junior and senior years at West Point, hence two sets of grades were available. Variables 47 and 48 are included in the composite officer average rating which appeared in the matrix.

The technique employed to estimate the factor loadings for these additional variables is based upon the following relationship (8):

$$r_{ab} = a_1b_1 + a_2b_2 + a_3b_3 + \dots + a_nb_n \quad (I)$$

where

$a_1, a_2, a_3, \dots, a_n$ = the factor loadings of factors
I, II, III, ..., N in test a.

$b_1, b_2, b_3, \dots, b_n$ = the corresponding loadings in
test b.

Thus, if the correlation between language grades and scores on the Arithmetic Reasoning test is known, factor loadings for the test may be substituted in equation (I) to obtain an equation with the factor loadings for the language grades as unknown values. If at least as many equations as unknowns are made available by using other test variables, a solution of these simultaneous equations may be effected to obtain the factor loadings for the language grades.

Since only the first seven factors had significant loadings for the achievement variables in the analysis, the eighth factor loadings for the additional variables were not estimated. Fourteen variables were selected from the original twenty-one to be used for estimating the new factor loadings. An attempt was made to pick two variables which adequately represented each factor. For the number and verbal factors, however, only one test was used for each.

An iterative method was employed which required initial guesses to be made for the factor loadings. This was done on the basis of an examination of the previous loadings for similar variables. Then, for each of the fourteen selected tests, estimated values of the factor loadings were substituted in the equation (I) to solve for r_{ab} . In this way, the correlation reproduced using the estimated loadings could be compared with the known correlation between the test and achievement variable. If the two values for r_{ab} did not agree, then a correction was applied to the initial estimates for the factor loadings. When r_{ab} had thus been computed for all fourteen tests, fourteen discrepancies were available for study to determine the direction and degree of error in the estimated loadings. By a method of successive approximations, corrections were applied to the initial estimates until the discrepancies between the fourteen estimated correlations and the known correlations were reduced to a minimum. Correction of the loadings was stopped when the largest discrepancy between correlations was so small that no additional change in the estimated loadings would give a smaller maximum discrepancy. The largest discrepancy between obtained correlation and

reproduced correlation, using the final estimated loadings, was .09 and the median value was approximately .04. This entire process was carried out separately for each of the seven new achievement variables until loadings in the seven factors had been obtained for each of them. Only a rough sketch of the factor pattern of these variables could be obtained in this manner, but for this purpose the method seemed adequate. The results are shown in Table 3.

TABLE 3
*Major Achievement Loadings**

Variable	No.	H	Me	PS	R	V	N	S
Language grades.....	30	72						
Mathematics.....	31	52		20	63			21
English grades.....	32	40			64		26	
Mil. topography.....	33	24	40	43	48			34
Tactics grades.....	34	22	55		31	27		
Off. av. rating.....	37	57		32				
Physics grades.....	42	34	32		65			27
History grades.....	45	48			36	48		
Language grades.....	40	93			24	22		34
Mathematics.....	41	38	21		28	27	27	
Mil. topography.....	43		33	47	35	34		44
Tactics grades.....	44				36	27		
Chemistry.....	46	30	44		44		32	
T. off. rating.....	47	55	36	32			33	
A. off. rating.....	48	34	24	41				-20

* Decimal points have been omitted.

Factor Interpretation and Discussion

Each of the eight rotated factors gave a reasonable basis for interpretation. The process employed was that of examining the variables which had significant projections on a particular axis in order to discover what they held in common. If it was apparent that some similar type of trait, ability, or factor was involved in all or most of the tests with significant projections, this quality was taken as the underlying factor.

Factor I was represented by the following variables:

Number	Test	Loading
30	Language grades	.72
37	Officer average rating	.57
31	Mathematics grades	.52
45	History grades	.48
32	English grades	.40
42	Physics grades	.34

Military topography and graphics grades and tactics grades had loadings of .24 and .22 respectively on this factor, hence all the achievement variables were represented on this axis. Although a loading cannot be accepted as unquestionably significant if it is less than .40, smaller loadings may indicate possible trends. This was the only factor on which the officer average rating had a loading of .40 or more. These facts suggest that this factor represents some sort of subjective element in the variables, possibly a general impression which the cadet makes upon his fellows and superiors. In view of the almost identical results obtained by Holzinger and Swineford, this factor was also called the halo factor (H). It is possible that in both this study and Holzinger and Swineford's work the real nature of this factor may not be as we have interpreted it. Alexander found such a common factor as did Carroll. The latter believed that it is not subjective in nature, however, since his variables included objective examination scores. Finally, Wittenborn and Larsen found all their German language achievement variables loaded on one factor. It will be noticed that in this study, all the significant loadings for language variables were also on one factor, the halo factor. All these bits of evidence lead to the conclusion that some common factor does actually exist among academic achievement measures. The exact nature of this factor is less certain. It may represent obvious effort on the part of students or some composite of several qualities tending to result in good scholarship and favorable impression upon others.

Factor II was represented by the following variables:

<i>Number</i>	<i>Test</i>	<i>Loading</i>
14	Mechanical Information	.77
13	Mechanical Principles	.68
34	Tactics grades	.55
11	General Information	.42
33	Mil. top. and graphics	.40
9	Reading Comprehension	.40
10	Practical Judgment	.35
1	Arithmetic Reasoning	.33
42	Physics grades	.32

This factor was named the mechanical experience factor (ME) because of its virtual identity with the same factor reported in

analyses by the Army Air Forces on samples of aviation cadets (9). Tests of knowledge of machinery best define the factor.

Factor III was represented by the following variables:

<i>Number</i>	<i>Test</i>	<i>Loading</i>
3	Spatial Orientation, I	.59
15	Speed of Identification	.56
33	Mil. top. and graphics	.43
37	Officer average rating	.32

The tests defining this factor involved the rapid perception of visual detail in photographs and drawings. It was called the perceptual speed factor (PS) because of its close agreement with the same factor in the Army Air Forces studies. Success in the two achievement variables present here can reasonably be supposed to depend on perceptual speed ability.

Factor IV was represented by the following variables:

<i>Number</i>	<i>Test</i>	<i>Loading</i>
42	Physics grades	.65
32	English grades	.64
31	Mathematics grades	.63
1	Arithmetic Reasoning	.49
33	Mil. top. and graphics	.48
45	History grades	.36
34	Tactics grades	.31

The loading in the reasoning factor in the Army Air Forces analyses for the Arithmetic Reasoning test was .47 which is in close agreement with the value obtained here for the only well-defined test loaded on this factor. On the basis of this evidence, this factor was called the reasoning factor (R) since the Arithmetic Reasoning test generally has major loadings only on the reasoning and number factors. It is reasonable to suppose that reasoning abilities are required for success in courses at West Point.

Factor V was represented by the following variables:

<i>Number</i>	<i>Test</i>	<i>Loading</i>
9	Reading Comprehension	.54
45	History grades	.48
10	Practical Judgment	.36
1	Arithmetic Reasoning	.31

A verbal factor was found in the Army Air Forces analyses

which had loadings of .52 and .46 for the Reading Comprehension and Judgment tests respectively. These values agree closely with the loadings for those tests in this analysis, hence this factor was called the verbal factor (V). Since no purely verbal test was included in the matrix, identification of this factor is hazardous since the language grades had no loading here. This fact is not fatal to the interpretation, however, since Wittenborn and Larsen also failed to find a projection on a verbal factor for language achievement measures. It may be that the nature of language courses at West Point is such that verbal abilities do not markedly influence the marks assigned.

Factor VI was represented by the following variables:

<i>Number</i>	<i>Test</i>	<i>Loading</i>
8	Numerical Operations	.52
1	Arithmetic Reasoning	.52

In both tests, the primary operation was a manipulation of numbers. These two tests defined the number factor in the Army Air Forces analyses, so this factor was also called the number factor (N). Worthy of comment is the fact that certain mathematics tests developed by the Army Air Forces had loadings of .50 or greater on the number factor. The mathematics grades in this analysis had a loading of only .11. However, the Air Forces tests were designed to measure competence at the advanced high-school level while the mathematics courses at West Point are undoubtedly considerably more advanced, hence different in factorial composition. It can be hypothesized that numerical abilities as represented by this number factor determine success in only elementary types of mathematics courses.

Factor VII was represented by the following variables:

<i>Number</i>	<i>Test</i>	<i>Loading</i>
12	Instrument Comprehension	.50
18	Complex Coordination	.44
13	Mechanical Principles	.36
33	Mil. top. and graphics	.34

This factor was called the space factor (S) because the two tests defining this factor represented the space factor in the Army Air Forces results with similar loadings. It is probable

that a course in military topography and graphics would involve the use of spatial abilities, so the presence of a projection for this achievement variable is not inconsistent.

Factor VIII was represented by the following variables:

<i>Number</i>	<i>Test</i>	<i>Loading</i>
6	Biographical Data, Pilot	.58
11	General Information	.50

This factor, which had no loading for any achievement variable, was named the pilot interest factor (PI) because of its definition by a biographical data test scored for pilot selection and a general information test which included much information specific to flying. The Army Air Forces analyses produced a similar factor with loadings of .49 and .36 respectively for these two tests.

Seven of the eight factors found in this study were sufficiently similar to factors found in the Army Air Forces analyses to warrant the inference that they were actually identical. The other factor, the halo factor, was unique to the achievement measures employed, with no significant loading for any of the Army Air Forces tests.

To summarize the findings, all loadings for the achievement variables of .20 or greater in factors I through VII are presented in Table 3. The upper group of variables contains those included in the factor analysis and the lower group is composed of variables for which loadings were estimated. On the basis of the information provided in Table 3, it is concluded that: language grades appear to be largely dependent upon the halo factor; mathematics and English grades depend upon reasoning abilities with the halo factor also playing an important role; military topography and graphics grades rely almost equally upon reasoning, perceptual speed, and mechanical experience factors with a small contribution by the space factor; tactics grades depend primarily upon the mechanical-experience factor and to a lesser extent upon reasoning; the composite officer average rating is loaded most prominently in the halo factor with only a slight indication for a perceptual-speed component; physics grades are highly dependent upon reasoning abilities and have small loadings in the halo and mechanical-experience factors; verbal and halo factors de-

termine history grades largely, although reasoning abilities have some influence.

The estimated factor loadings for the remaining achievement variables reveal a similar pattern. Mathematics grades were not estimated at such a high loading in the reasoning factor as would have been expected on the basis of the analysis of the previous variables. The pattern obtained does not appear to deviate sufficiently from the factor analysis results to warrant the conclusion that these variables would have materially altered the interpretation of the results had they been included in the matrix.

A definite difference in pattern between academic subjects and military subjects is apparent. Language, English, physics, mathematics, and history have significant loadings in the halo, reasoning, and verbal factors only. The military subjects, tactics and military topography, have significant loadings in the mechanical experience, perceptual speed, and reasoning factors with some evidence for the importance of the space factor. The verbal factor did not achieve a position of such prominence in its representation among the achievement variables as might be predicted on the basis of previous analyses in this field. However, the absence of a relatively pure measure of this factor hampered the rotations somewhat so it is possible that the verbal factor was not sufficiently differentiated from some of the other factors.

The results show quite definitely that the factorial composition of achievement measures varies from one kind of subject matter to another. This variation is considerable when academic subjects are compared with military courses, for example. Even within the academic area, language studies vary somewhat from history and both differ markedly from physics and mathematics. This information suggests the conclusion that it would be possible to map out achievement factorially for all different types of curricula, set up factor tests, derive regression equations, and predict the success of prospective students in various courses of study. Although a program of this sort would involve a tremendous amount of labor, certainly the return in benefits to the student would constitute adequate justification for its undertaking.

As a secondary result of such a study, some indication of the

distribution of variance in achievement measures would be obtained. In those cases where measures contain appreciable amounts of variance in areas unrelated to the objectives of the course, steps could be taken to improve teaching and grading procedures. This sort of evaluation should result in better measures of achievement and hence would lead to more valid prediction of academic success or failure. In this connection, further extensive analysis of the halo factor to establish its exact nature more clearly should yield valuable information for purposes of prediction.

Since West Point is probably not typical of the nation's higher education centers, the results in terms of specific factor patterns are probably not capable of further generalization. However, it seems evident that definite and determinable differences in factor patterns for different achievement measures will appear in all types of educational institutions.

Summary

Twelve printed classification tests and one apparatus test from the Army Air Forces classification battery were given to a group of West Point cadets. These scores were correlated with eight achievement measures from the cadets' records. The resulting correlation matrix was subjected to a centroid analysis yielding eight factors. The centroid axes were rotated and the factors obtained were named as follows: halo, mechanical experience, perceptual speed, reasoning, verbal, space, number, and pilot interest. All of these factors except the first had been isolated previously in analyses by Army Air Forces personnel. Of these eight factors, the first six proved to be important for the achievement measures. The halo factor was common to all the academic achievement measures and was tentatively interpreted as depending upon subjective elements in grades given to West Point cadets. Important differences in factor composition appeared for the various types of achievement variables included in the matrix. Academic courses were shown to depend upon halo, reasoning, and verbal factors. Specialized military courses leaned more heavily on the mechanical experience, reasoning, perceptual speed, and spatial factors.

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A CRITICAL REVIEW OF TECHNIQUES FOR EVALUATING GUIDANCE

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THE term guidance covers numerous social activities in which one or more persons learn new behaviors through the help of another who is usually an adult. Guidance is essentially a learning situation and, in a sense, all teaching is guidance. In general, teachers and educators have come to draw little distinction between situations in which the pupil learns to add up sums of money, to make a speech, to organize a committee, to discuss current affairs, to choose a vocational goal, or to set up life goals. All of these are learning situations in which the function of the teacher is one of guidance; that is to say, one which facilitates learning. However, the term guidance is used by psychologists and by certain specialized workers in a different and limited sense to denote a limited range of learning situations in which a person with special psychological training plays an important part. Usually, in these learning situations the guidance worker is attempting to help the student to learn new behaviors which may solve immediate social difficulties or establish new long-term goals. The approach which the guidance worker takes is commonly called the *clinical* approach but the same approach when it is taken by the educator is referred to as the organismic approach. Both of these terms imply that the individual must be understood as a whole in order to understand his special problems of learning.

Counseling is a limited aspect of guidance and is a learning situation conducted on a personal basis by the guidance worker. Counseling is a learning situation even when it involves such complex phenomena as catharsis or transference. It is useful to think of it as a learning situation because it is then not only properly classified but it is also placed in a field in which there are well-developed evaluation techniques.

It should be noted that the teacher and specialized guidance worker agree that guidance refers to a learning situation, but the psychologist restricts the meaning of the term to those learning situations conducted by specialized guidance personnel. This paper is concerned mainly with the evaluation of guidance in this restricted sense. For the purposes of this discussion, it is irrelevant whether counseling is conducted on a non-directive or a "non-nondirective" basis. It is sufficient to recognize that both counseling and guidance represent attempts to facilitate learning and in this respect do not differ from other teaching situations.

In organized learning situations in education, goals are established, procedures are developed for attaining those goals, and methods are devised for determining the extent to which the goals are achieved. The latter process is now referred to as evaluation since it is used to determine the values inherent in the learning situation. During the last two decades great strides have been made in evaluating the outcomes of education and it is not uncommon to find schools in which serious attempts are made to measure not only the traditional subject-matter outcomes but also outcomes such as adequate social development, the appropriateness of the individual's leisure-time interests, and the adequacy of his vocational goals. However, the guidance movement, in the restricted and specialized sense of the term, has been largely uninfluenced by the evaluation movement partly because guidance workers commonly do not recognize that they, like any teacher, are trying to produce learning and therefore should measure how much learning has taken place, and partly because the evaluation of specialized guidance functions present special problems which will be considered here.

General Techniques for Evaluating Guidance

There is no essential difference between the procedure for evaluating guidance and the procedure for evaluating the outcomes of any other learning situation provided by the school. Just as there are two general methods of evaluating the outcomes of any teaching program, so too are there two general ways in which a guidance program may be evaluated. First, a survey may be made of the procedures used in that program

with the purpose of determining the probability that the program is achieving the goals it is supposed to achieve. This method has been the usual one for evaluating guidance programs and goes back to a proposal made by Myers (13) in 1926. This is the traditional way of evaluating an educational program and one which is rapidly becoming outmoded in most educational fields outside of guidance. It is unsatisfactory as a technique principally because it is valid only insofar as definite knowledge exists concerning the extent to which specific procedures achieve specific goals. It assumes that much knowledge has been accumulated concerning the validity of guidance procedures, but since that assumption cannot be accepted, the survey method of evaluating guidance must also be rejected. It should be noted that the main reason why the survey technique for evaluating an educational program has been largely rejected in most fields of education is that it has been shown again and again that, at the present time, it is impossible to make valid guesses of what the outcomes of a program actually are. It has been found too often that the accomplishments of educational programs are much less than teachers commonly assume them to be. It is of vital importance to distinguish between evidence of the achievement of objectives and hopes that objectives are being achieved.

The second method of evaluating the outcomes of an educational program arises very largely out of a belief that the consequences of educational practices cannot be determined adequately unless evidence of those consequences is systematically collected. In this second method the procedure is that of defining carefully the objectives that are to be achieved, specifying the group in whom they are to be achieved, developing instruments for measuring the extent to which these objectives are achieved, and finally carrying through the program and then measuring its actual outcomes. One of the most striking changes in education in the last thirty years has been the almost universal change from the first method given above to the second method. It is a change from a prescientific method, which is likely to be influenced by wishful thinking, to a method in which wishful thinking plays very little part and in which assumptions are reduced to a minimum.

In all of this change from the prescientific to the scientific

method of evaluating outcomes, the field of guidance has played little part. In this respect, guidance programs have lagged far behind the times and with few exceptions represent the traditional rather than the modern approach to education.

Evaluating Outcomes in Terms of the Achievement of Objectives

A major difficulty in obtaining from guidance workers lists of outcomes of guidance is that such workers commonly believe that there is only one possible set of goals towards which guidance can possibly be oriented and that all guidance workers are attempting to achieve the same goals. This is a basic fallacy, for in guidance as in other areas of education, numerous different goals are possible and many of these goals are mutually incompatible with each other. Guidance programs aspire to produce desirable citizens, but the concept of what constitutes a desirable citizen varies from one person to another. Just as the term "desirable citizen" may mean entirely different things to different people so, too, does the term "adjustment" have many different meanings. A person who is well adjusted from the point of view of a union leader may be looked upon as a person in need of psychotherapy from the point of view of a business executive. Adjustment is worthy enough as a goal of guidance but useless as a concept unless it is operationally defined in great detail. Consequently, the statement that the goal of counseling is to improve the adjustment of the individual is about as useful as stating that the purpose of education is to produce educated citizens. This latter fact is one of the major reasons why so little has been done to evaluate the outcomes of guidance and only a few writers seem to have discussed this basic matter. Among the few is Lafferty (9) who has pointed out that practically all school guidance programs now lack clearly defined objectives, that they overemphasize the sheer mechanics of counseling as an end in itself, that they rely too much on the use of objective test scores, and try to fill too many needs. Tyler (24) and Wrenn and Darley (28) have also pointed out that the crucial steps in the formulation of rational guidance programs still have to be taken, namely, the definition of objectives. These writers agree that until the objectives of guidance have been clearly defined that little can be done to evaluate outcomes.

The same kind of difficulties in other areas of education has made the development of evaluation studies a slow and laborious business. As a matter of fact, it was only during the 1930's that methods were evolved for defining educational objectives in terms which made evaluation practical. However, the development of these methods for defining objectives has formed the basis for numerous evaluation studies which have thrown light on what learnings occur in certain specified situations. When the same methodology is applied to the type of learning situations provided by guidance workers useful evaluation studies will emerge.

For these reasons, it is not possible to review evaluations of guidance by listing a series of well-defined objectives of guidance and then presenting the evidence showing the extent to which each objective is achieved by given procedures. There is nevertheless some value in examining some of the evaluative criteria that have been used by various investigators. While few of these studies provide evidence of the efficacy of guidance or counseling for producing specific kinds of learning, they are worth reviewing because they illustrate some of the difficulties involved in evaluating guidance procedures.

Evaluative criteria fall into two general categories, subjective and objective. While objective criteria are in general much more satisfactory than subjective criteria, the latter must be considered because of the frequency with which they are used.

Evaluative Criteria

Subjective evaluative criteria of the outcomes of guidance include the individual's own assessment of his personal happiness, the satisfaction which he derives from his job, the extent to which he feels that his social life is adequate, and the degree to which he feels that he has achieved the goals which he set for himself. The chief difficulty in measuring these factors is that adequate instruments have not yet been made for their measurement and that the responses to the usual type of rating scale are too frequently colored by immediate and transitory circumstances. Day-to-day variations in job satisfaction and general personal happiness are large, and a minor catastrophe may temporarily color a person's entire outlook on life. Consequently, ratings by the individual of his feelings of satisfac-

tion or dissatisfaction with his job or his home life must be considered as highly invalid measures of the outcomes of guidance unless they are made on several different occasions.

Other subjective evaluative criteria include the satisfaction which a student feels with the counseling. This criterion has been used very commonly for evaluating counseling procedures. Studies by Mellon (12), Compton (4), and Paterson and Clark (14) all showed that a large fraction of those counseled reported that they found the treatment helpful. However, it can hardly be conceded that feelings of satisfaction with counseling can be considered either a major goal of the procedure or evidence of its success. The mere fact that the counselee feels satisfied is not evidence of the desirability of the process. People tend to be remarkably well satisfied with fortune tellers and other charlatans and tend to feel that they have derived much from the association. On a similar basis, one must reject as evidence of the efficacy of counseling, statements by those counseled that they had benefited by the treatment.

An argument commonly used for the validity of counseling procedures is that several studies have shown that students who cooperate with counseling are more likely to be well adjusted on the follow-up than those who do not cooperate. This has been cited again and again as evidence for the validity of counseling procedures, but it cannot be accepted as evidence, for the mere fact that a person cooperates with a counselor is in itself evidence of the ability to make adjustments of a certain kind. Similarly, an uncooperative attitude or a negativistic attitude toward the counselor is evidence of an inability to adjust to relatively simple social situations. Insofar as adjustment is a general factor, these follow-up studies show that those who cooperate with the counselor are going to be better adjusted than those who do not, but this does not imply that the counseling procedure was good, bad, or indifferent.

In general, it seems that the unsatisfactory nature of subjective criteria for evaluating counseling makes it necessary to use objective criteria, but these too must be used with great caution.

Objective criteria for evaluating the outcomes of guidance have included academic grades, income after a certain number of years, frequency with which jobs are changed, the stability

of life goals, the extent to which educational plans are completed, and so forth. Some of these criteria will now be examined to illustrate the caution that should be exercised in their use.

The criterion that has probably been most commonly used for evaluating the outcomes of guidance at the college level is the change in the average grades received by the student before and after counseling. This criterion is often based on the wholly unwarranted assumption that a major goal of counseling is to permit the student to improve his grades. With this goal in mind the counselor is tempted to seek out for the failing student the easy courses and the lenient instructors. While this practice may often result in an improvement in the student's grades, it does not result in an improvement in his work.

It is quite obvious that counseling and guidance should not serve the purpose of steering the student through college by showing him all the weak points in the administrative regulations and in the assignment of grades. Such a system serves the purpose of obtaining degrees for students who have not achieved the outcomes which such degrees are supposed to indicate. The counseling procedure which aims at improving grades by steering the weak student through the administrative and educational loopholes makes a farce out of the educational process for it makes him and others feel that he has achieved something which he has not.

This discussion does not imply that improvement in grades as a result of counseling occurs only when the student is shown loopholes in the educational system. However, it does imply that certain misguided workers raise the grades of their counselees by methods which assume that good grades rather than desirable behavior are the goals of clients. This does not mean that educationally respectable methods of helping the student to achieve more in his work do not exist. Time-old recipes such as those of helping the student to plan a schedule, helping him to improve his reading skills, helping him to choose a program which calls upon his outstanding talents, may all be effective ways of enabling him to achieve more than he would otherwise achieve. Where the latter techniques are used, *one* consequence may be a change in the grades of the counselee.

This discussion serves to point out that changes in school

grades can be used for evaluating the outcomes of guidance only when the objectives of guidance have been properly defined and where the outcomes of guidance are integrated with the outcomes of other aspects of education. An improvement in grades as a result of counseling cannot be accepted, without additional data, as evidence that the counseling process achieved worthy ends.

Since many of the implied goals of guidance are long-term matters, the measurement of the extent to which these goals are achieved must also be carried out over a long period of time. For example, much of the work undertaken in counseling is related to the formation of life goals, and it is quite evident that considerable time is necessary in order to determine whether these life goals are appropriate. In these long-term goals, as in short-term goals, there are both subjective and objective evaluative criteria which must be considered though, in general, long-term studies enable the investigator to use objective criteria.

Test scores are useful only insofar as they can be used to predict behavior in some specific situation in the future. If such predictions can be made, then at least one aspect of the guidance process has validity. Studies of the value of test scores for making predictions over short periods are too numerous to be summarized here. Studies of the validity of test scores for making predictions over long periods are fewer in number but much more significant for guidance workers. The long term studies undertaken by Thorndike and Lorge (19, 17, 20, 21, 18) are the most comprehensive studies of the latter kind. These investigators sought to determine whether tests administered early in secondary school could be used for predicting various aspects of the student's subsequent career. These investigations concluded that although educational guidance seems both possible and fruitful, the correlations of test scores with vocational success were so low that little worthwhile vocational guidance could be undertaken on the basis of test scores alone. Various criticisms (15, 7, 8) were made of the Lorge and Thorndike studies, some to the effect that guidance or counseling should not involve predictions of subsequent success, but the fact seems to remain that if test scores are

used in the guidance process then they must be used for making predictions.

Terman's follow-up studies of gifted children also yield data on the extent to which certain kinds of predictions can be made from certain kinds of test scores. In general, the Terman results are rather more promising than the Lorge and Thorndike results but this is probably a consequence of the fact that the Terman study was based on a group of extreme deviates.

An objective method of appraising counseling which is promising but which has been little used is the method of determining the extent to which behavior becomes reoriented towards more attainable goals as a result of the counseling procedure. An example of this technique is given in a study by Abramson (1) who found that those who were not judged to be suited for semi-professional or managerial work but who planned to enter it would frequently modify their life goals after counseling, but that those who planned to enter the professions modified their vocational goals less easily. There is a real need for studies of this kind which are fairly easily undertaken. Much could be done to appraise both changes in the life goals of the individual and in the understanding which the individual has of his own abilities. Counselees could be asked to rate themselves on various characteristics both before and after counseling. If test scores are discussed during the counseling interview, it should be possible to determine whether this procedure develops understanding in the individual of his own strengths and limitations. However, measuring techniques such as these should be used not only immediately before and immediately after counseling but also after an interval has elapsed. The fact that insight is achieved through counseling does not mean that the insight is permanent.

A subjective variation of this latter technique has been developed by Rogers and his associates at the University of Chicago. This technique requires the counselor to arrive at a subjective judgment of whether the client has developed insight into his problem. These nondirective counseling advocates believe that observation of the client will determine the degree of adjustment that has been achieved. The criticism of this method is obvious.

The Use of Control Groups

One of the basic difficulties in evaluating the outcomes of guidance is in finding suitable control groups. Control groups are important in the measurement of educational outcomes because they help the investigator to identify the cause of a particular outcome. It should be noted that in order for the control group to serve its purpose, it must be similar in all important respects to the experimental group.

In the field of guidance, evaluation has been undertaken on many occasions by comparing the behavior of those who received guidance with the behavior of a control group which did not. Unfortunately, there are hardly any studies on record in which the control group and the group receiving guidance (experimental group) were adequately matched. The common tendency has been to match control and experimental groups on the basis of irrelevant factors. For example, one study was carried out (27) in which the investigators studied a group that received guidance at the University of Minnesota Testing Bureau and an allegedly matched group which received no special guidance because the members of the group did not apply for any. The matching in this study was based on factors which had little relation to the purposes of counseling. Since the groups were compared in terms of their later adjustment, the control group and the experimental group should have been matched initially in terms of adjustment, and since this was not the case the outcomes of the experiment become almost impossible to interpret. It is hardly surprising under these circumstances that the counseled group showed better adjustment than the noncounseled group for, by applying for counseling, they had shown that they were individuals actually seeking an improvement in their adjustment to life. In this experiment the only meaningful control group would have been another group of individuals who by their behavior showed that they were actually seeking to improve their adjustment and which were not given personal counseling services.

One of the few published studies appraising a counseling program through the use of an adequate control group is that

by Toven (22). In this study 376 freshman college students were divided into two groups in order of registration. One group was counseled systematically throughout a four-year general academic curriculum. The other group had the same curriculum but did not receive special counseling. Counseling was undertaken by the usual faculty advisers which makes the study particularly interesting since the professional counselor commonly assumes that the work of the academic adviser bears little fruit.

The results of this study are important. Of the counseled group, 53.7 per cent graduated, but of the noncounseled group, only 36.2 per cent graduated. The counseled group seems to have had fewer academic difficulties though the two groups had almost identical academic averages during the last three years of college. The main effect of the counseling procedure seems to have been that it enabled more of the group to finish college. Of course, it must be remembered that any group singled out for special treatment is likely to be better motivated than those who fall in the run of the mill. One cannot help wondering whether the outcomes of this experiment may not be at least partly attributable to that factor. However, if the counseling procedure succeeded only in making the student feel wanted and appreciated it achieved an important end.

Another common and fallacious method of selecting a control group is to compare the subsequent behavior of those counselees who followed advice with those who did not. Studies by Webster (26), Burt (2), Macrae (11), Williamson and Darley (5), McConn (10), Viteles (25), Earle (6), Seipp (16), Trabue and Dvorak (23), and Clark (3) all follow this procedure. In each of these studies the validity of the "advice" given was tested in terms of whether those who followed the "advice" did "better" in some way than those who did not follow it. These studies neglect the fact that the person who rejects the advice of a counselor may be exhibiting a basic personality problem which may interfere with his success regardless of the situation in which he may find himself. In these studies, as in the one previously discussed, the basic difficulty arises from the fact that the control and experimental studies were matched for irrelevant variables. In these latter studies the only basis of

matching lies in the fact that the two groups to be compared applied for or were given counseling.

It is quite evident that there are major difficulties in the way of selecting adequate control groups for validating counseling procedures. At the present time the only theoretically satisfactory method of selecting a control group is usually administratively impractical. That method is to provide counseling services to alternate cases. This procedure provides two groups in which the desire for better adjustment is to some extent equated and would certainly provide a much more adequate control group than that usually selected on the basis of rather irrelevant material.

The Selective Publication of Evaluative Studies

Another factor which complicates the interpretation of validation studies is the tendency for studies with negative results to remain unpublished. This is not a result of any deliberate policy to suppress information which is inconsistent with the investigator's own point of view but rather a tendency which Charles Darwin noted when he said that somehow he just happened to forget facts which were inconsistent with his main theory.

The tendency for only those studies which indicate positive results to be published has an interesting effect on the statistical results of those that are published. It has the effect of biasing statistical tests of significance in such a way that the statistical significance of differences is greatly overestimated. It is essential then to interpret published studies with this factor in mind.

Guidance is not the only field in which the selective publication of results biases statistical tests of the significance of differences. The same thing happens in all fields where workers are bound by strong emotional ties to certain outcomes. The same thing has happened in studies of traditional versus modern classroom procedures. Most of those who carry out such studies are vitally concerned with showing that the newer educational practices are better in some ways than the older practices. The result is that investigators show a remarkable absentmindedness about publishing those studies that produce

negative results. This is evidenced from the tendency for minor studies to show marked positive results but for the large studies to show very small differences between the groups studied.

Present Status and Outlook

At the present time it is not unfair to say that the chief evidence of the effectiveness of guidance is the subjective evidence which the counselor accumulates as a result of his experience with clients. This evidence has only limited value since it is likely to be influenced by wishful thinking and other irrelevant factors. The difficulty of obtaining objective evidence of what is learned by the counselee has resulted in a paucity of objective evidence concerning either specific aspects of guidance and counseling or the process as a whole. The majority of studies fail to provide interpretable evidence largely because they fail to control one or more important variables.

Progress will be slow until guidance workers come to recognize guidance as a learning situation which can be investigated by the methods developed for investigating other learning situations. These methods involve the specification of the objectives of learning that are to be achieved, the specification of the means of achieving these objectives, the selection of criteria for determining whether the learning objectives have been achieved, and provision for the control of relevant variables. Until more studies of guidance are undertaken following these steps, there will be very little certain knowledge of what guidance is actually accomplishing.

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DIFFERENTIATING ATTITUDES OF STUDENTS AT TWO HIGH SCHOOLS BY USE OF A SCHOOL ATTITUDE INVENTORY¹

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IN THE Spring of 1947, while administering group tests at various Minnesota high schools, the writer was impressed by the difference in cooperation of senior students at two city high schools. At High School C², the students were extremely cooperative and order was easily maintained while administering the two tests in the Association of Minnesota Colleges battery³; however, at High School NC² it was difficult to maintain order, many of the students appearing to be deliberately creating confusion.

The difference was so marked that it was felt that their test-taking behavior might be a reflection of basically different attitudes toward school. Accordingly, a *School Attitude Inventory* was constructed in an attempt to determine what differences in attitude might exist.

Ninety items were drawn up, some original and some adapted from Bell (1), from Symonds and Block (5), and from McConnon and Darley (4). These items were arranged as follows:

Items 1-15: Attitudes toward School's Social Life and Fellow Students

Examples: School clubs and activities are controlled by small cliques of students.

We have an interesting school paper.

I like the assembly programs at this school.

Items 16-60: Attitudes toward Teachers

Examples: Some of my teachers treat me as if I were a child.

My teachers are too strict.

My teachers make their classes stimulating.

¹ The writer wishes to express his sincere appreciation to Professors W. W. Cook, D. G. Paterson, and R. F. Berdie of the University of Minnesota for valuable assistance in this study.

² Identity of the two schools is withheld for public relations reasons. "C" will be used for the cooperative school, "NC" for the uncooperative school.

³ A. C. E. *Psychological Examination* (1937), *Cooperative English Test* (OM).

Items 61-75: Attitudes toward Curriculum

Examples: I like most of the courses I have taken at this school.

None of my courses will be useful to me in the work I plan to do.

Most of the examinations are fair.

Items 76-90: Attitudes toward Administration

Examples: I like the way this school is run.

A student is certain of getting a "square deal" even if he is being punished for breaking school rules.

The general atmosphere of this school is pleasant and cheerful.

"Correct" responses were chosen on an a priori basis, one point being scored for each item marked in the direction indicating dissatisfaction with, or unfavorable criticism of, the school. Items were arranged for machine scoring.

Before proceeding to the results, certain other factors should be noted:

1. Both schools were located in low socio-economic areas, the area around School C being poorer than the area around School NC. Both schools have few graduates who continue with formal schooling (about 5 per cent of the graduates of each school go to college). Inventory scores correlated $-.23 \pm .05$ with mid-parent education.
2. The two groups did not differ in mean intelligence scores, the critical ratio between A.C.E. Psychological scores for the two groups being only 0.05. Inventory scores correlated $.20 \pm .05$ with A.C.E. raw scores.
3. The two groups did not differ significantly in mean scores on a personal-social maturity scale.⁴
4. School C is one of the oldest schools in the city; School NC is one of the newest.
5. There were higher scale intercorrelations than might be desired. The intercorrelations found in this study are presented in Table 1.

⁴ This was appended to the inventory as a fifth, non-functioning scale which was not included in the total score. With 20 items, there was a range of 15 at one school and of 14 at the other. The critical ratio between mean scores was only 0.09; correlation with inventory total scores was $.34 \pm .03$.

Results

Total scores on the *School Attitude Inventory* successfully discriminated between the school attitudes expressed by the Seniors of the two schools. Twenty-eight per cent of the Seniors at School C had scores equaling or exceeding the median of NC Seniors. On the other hand, 76 per cent of the School

TABLE 1
Intercorrelations between Scales of the School Attitude Inventory

Scales	School C		School NC		Total	
	"r"	P.E.	"r"	P.E.	"r"	P.E.
Social Life vs. Teachers.....	.32	±.04	.52	±.04	.46	±.03
Social Life vs. Curriculum.....	.34	±.04	.43	±.04	.36	±.03
Social Life vs. Administration.....	.52	±.04	.67	±.03	.67	±.02
Teachers vs. Curriculum.....	.43	±.04	.53	±.04	.46	±.03
Teachers vs. Administration.....	.50	±.04	.57	±.04	.54	±.02
Curriculum vs. Administration.....	.39	±.04	.50	±.04	.44	±.03

TABLE 2
Abbreviated Norms on the School Attitude Inventory for Schools C and NC

Score	%ile Rk., Sch. C	%ile Rk., Sch. NC	Score	%ile Rk., Sch. C	%ile Rk., Sch. NC
70	—	1	40	10	32
63	—	2	33	26	50
61	—	3	25	50	76
58	1	4	17	81	90
56	2	4	14	89	95
55	2	5	13	90	96
53	3	9	10	93	98
52	3	10	9	94	99
49	4	15	8	97	99
46	5	20	7	98	99
			5-6	99+	99+

NC students equalled or exceeded the median for School C. Table 2 presents norms for the two groups.

There was a critical ratio of 6.2 between the mean scores of the two groups; this yields a probability of $< .0001$.

Considering the inventory scale by scale, significant differences were found between the means for the two schools on each scale. The greatest critical ratio was found between the means of the Administration scale. This difference in expressed attitude is probably the most practically significant of

all the differences noted. Table 3 shows comparative figures for the four scales.

Finally, an item analysis was run, the two Senior classes acting as the contrasting groups. Seventy-five of the 90 items discriminated in the positive (or anticipated) direction, 42 of these being significant at the .05 or lower level when the

TABLE 3
Comparative Figures on the Total Scale and the Sub-scales of the School Attitude Inventory for Schools C and NC

Scale	Mean Sch. C	S.D., Sch. C	Mean Sch. NC	S.D., Sch. NC	Diff., Mean	S.E., Diff.	CR	P.	% over- lap C ^a *	% over- lap NC ^b †
Soc. Life.....	3.7	2.0	5.4	2.4	1.7	.54	3.2	.0012	78	16
Teachers.....	14.4	7.5	17.8	8.0	3.4	.81	4.2	<.0001	64	42
Curriculum.....	3.5	2.3	4.9	2.8	1.4	.27	5.1	<.0001	82	30
Administration....	3.6	3.0	6.0	2.4	2.4	.28	8.3	<.0001	87	16
Total.....	25.9	10.9	33.7	12.9	7.8	1.26	6.2	<.0001	76	28

* = Percent of students at School NC equalling or exceeding the median of School C.

† = Percent of students at School C equalling or exceeding the median of School NC.

TABLE 4
*Summary of Items Showing Significant or Negative Differences**

Scale Number	Level of Significance				Negatively Discriminating		
	.05	.02	.01	.001	Total	Total	Sign. at .05
I	1	1	1	4	7	2	1
II	7	6	1	3	17	8	1
III	0	0	1	5	6	2	0
IV	3	2	1	6	12	2	1
Total.....	11	9	4	18	42	14	3

* Fisher "t" test of significance used. Items were considered negatively discriminating when proportionately more students at School C answered the item in the unfavorable (or critical) direction.

Fisher "t" test was employed. Fourteen items were negatively discriminating, but only 3 were significant at the .05 level. One item showed no discrimination.

Table 4 shows the significance levels of the items on each of the scales. It will be noted that 12 of the 15 items on the Administration scale were positively discriminating at the .05 or lower level. This would seem to be further evidence that

the difference in attitudes centered about their attitudes toward the school's administration.

Free-Response Comments

At the end of the Inventory, each student was asked to write his comments about the school and/or the Inventory. These comments are being used in subsequent revisions of the Inventory. It is not our purpose here to report the results in detail; however, a few of the findings may be pertinent. There were twelve comments on the Inventory, about equally divided between favorable and derogatory. Three students even claimed a therapeutic effect from taking the Inventory.

With one exception, the pattern of these free-response comments was essentially similar. School C (with 199 students taking the inventory) directed a total of 26 complaints against the administration; School NC (with only 170 students taking the inventory) directed a total of 80 criticisms against their school's administration!

On these same free-response comments, many students at School C wrote that they "liked," "admired," or "respected" their principal. Only one student at School NC had such a comment for the principal—and that remark was only that "our new principal is certainly an improvement," not indicating any real liking.

Summary

The study may be summarized as follows:

1. A *School Attitude Inventory* of 90 items was constructed in an effort to measure attitudes underlying observed differences in test-taking behavior of Seniors at two city high schools.
2. It proved possible to measure attitudes toward School's Social Life, Teachers, Curriculum, and Administration; inter-scale correlations varied from .32 to .67.
3. The groups did not differ significantly in socio-economic status, intelligence, or personal-social maturity.
4. Significant differences were found between total scores, scores for each of the four scales, and for 42 of the items when the two classes served as the contrasting groups.

5. Seventy-five of the items were positively discriminating. Of the 14 negatively discriminating items, only three were significant at the .05 level. One item showed no discrimination.
6. The greatest differences between the two groups seemed to center about the administration (most specifically, the principal).

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QUALITATIVE EVALUATION OF THE PROGRESSIVE MATRICES TESTS¹

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THE *Progressive Matrices Tests* purports to be a quantitative measure of education. It was first proposed by Penrose and Raven (2), further described by Raven (3, 4), and finally standardized by Raven (5). On the basis of the concept of education advanced by Spearman (7), Raven (4, p. 12) argues,

Perceptual tests . . . may appear useless artistic stunts or obscure mathematical problems but upon investigation success in solving them is found to depend upon the ability for logical thought which is the essential factor in all intelligent conduct. *Progressive Matrices* is a series of such tests designed to measure the accuracy of education.

With this explanation in mind the research staff has been using these tests with mentally deficient subjects at The Training School at Vineland. After observing a reasonably large number of subjects perform the tests, it was decided to see if some kind of method could be found which would render practicable a qualitative evaluation of performance.

Test Description

Progressive Matrices is a series of sixty visually presented problems in booklet form with one test per page. On the top half of the page is a large rectangular design called a matrix with a part removed from the center of the lower right hand quadrant. On the bottom half of the page are six or eight cut-outs, each a possible "answer," and all of the proper geometric shape to fit into the blank space in the matrix but each with a different design upon it. The testee is to choose the cut-out which, because of its design, will complete the

¹ The writer is indebted to the staff of the Vineland Laboratory for general assistance and especially to Mr. H. S. Danenhower for encouragement and to Dr. E. A. Doll for editorial advice.

pattern in the matrix and which therefore properly belongs in the blank space. A diagram of the type of format of these tests is shown in Figure I.

The sets are in the order of increasing difficulty, each set having a theme to be deduced by the subject. The themes are as follows: Set A—continuous patterns; Set B—analogies between pairs of figures; Set C—progressive alterations in

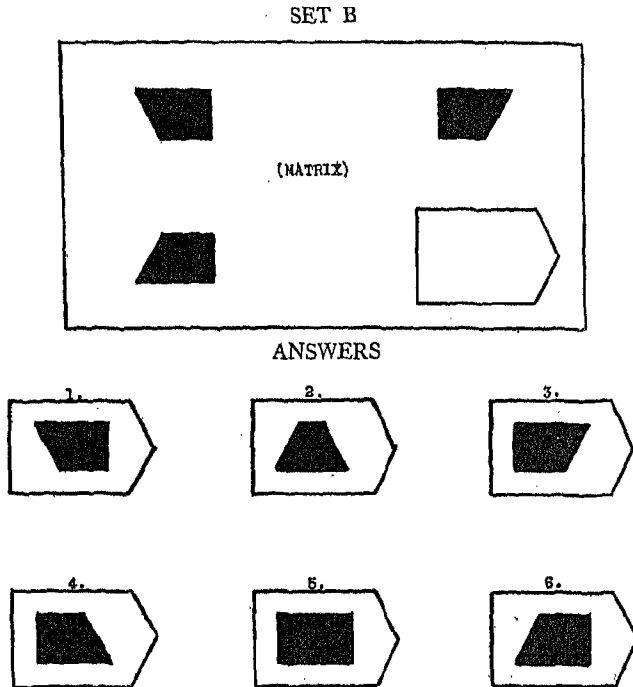


FIGURE I

DIAGRAM OF TEST FORMAT

patterns; Set D—permutations of figures; and Set E—resolution of figures into constituent parts. The first problem of each set is intended to be self-evident and each succeeding problem further develops the theme of the set and is more difficult than the preceding problem. A score of one point is given for each correct answer, the final score being the sum of the number of correct answers. The tests are in booklet form and can be given individually or to groups. The range of the tests is from life age six years to average adult.

Method

The most obvious method for determining how a subject responds to these matrices is introspection. Working with average adults the examiner can ask the subject how he arrived at the particular answer indicated and the subject can present his reasoning or lack of it. However, most mentally deficient subjects do not seem to be able to explain just how they arrived at the particular answer which they indicated. It is apparent, then, that with mentally deficient subjects some method of qualitative evaluation other than introspection must be used.

According to Raven (3, p. 32), "The majority of errors of mentally defective children were of the repetitive type: when the problem became too difficult after a few sporadic attempts of a vague and inconsistent type, soon abandoned all effort to work through the series." Rimaldi (6, p. 350) noted that in young children when the problems become more difficult there was a tendency to give up, and, he added that they sometimes repeat the same answer time and again. Our experience is in essential agreement with the observations of Raven and Rimaldi. The mentally deficient subjects seem to work along at the tests for a while, at first giving correct responses, then incorrect responses. Finally they give up and quit trying. An observant examiner can usually detect this point and will notice that as the subject proceeds further, his responses are given more quickly and are obviously the result of guessing.

It would seem that while the subjects are still trying to do the tests, but are giving incorrect responses, that these incorrect responses may fall into one of several patterns. It is believed that these patterns may be made the basis of a qualitative evaluation of these tests.

For Set A, whose theme is continuous patterns, the present writer could determine no incorrect response pattern. However, for Set B, whose theme is analogies between pairs of figures, two response patterns were found to have been used. For what we shall call Pattern B-1, the subject apparently answered by having his responses match the design in the matrix above the blank space. It is to be noted that this pattern would give the correct answers to the first three prob-

lems in the set. The other pattern, which we call B-2, was apparently done by matching the design in the matrix to the left of the answer space. This pattern would afford correct answers to the first two problems of the set. In Figure I, the response conforming to Pattern B-1 would be 3, and the response conforming to Pattern B-2 would be 6. There is a possibility of a third pattern which would consist of matching the first design in the matrix. This pattern was not found and will not be considered. In Table 1 are listed the numerical answers for the two patterns applicable to Set B.

For Set C, whose theme is progressive alterations in patterns, essentially the same kind of response patterns were found as for Set B plus two more. Pattern C-1 represents responses which

TABLE 1
Incorrect Response Patterns Set B

Problem Number.....	3	4	5	6	7	8	9	10	11	12
Numerical Key Pattern B-1.....	—	4	5	2	2	6	1	1	3	2
Numerical Key Pattern B-2.....	2	6	2	1	1	3	5	2	2	3

TABLE 2
Incorrect Response Patterns Set C

Problem Number.....	1	2	3	4	5	6	7	8	9	10	11	12
Numerical Key Pattern C-1....	3	—	—	4	4	5	4	6	2	1	6	1
Numerical Key Pattern C-2....	—	—	—	3	8	—	8	2	8	2	8	5
Numerical Key Pattern C-3....	4	1	8	7	3	2	3	—	—	5	—	—
Numerical Key Pattern C-4....	2	4	2	—	—	2	6	—	—	—	4	—

match the design in the matrix above the answer space. Pattern C-2 is a response matching the design in the matrix to the left of the answer space. Pattern C-3 is a response matching the first design in the matrix. Because it was suspected that some subjects responded by selecting the cut-out containing the most space-filling design, Pattern C-4 was formulated which meant a response with the cut-out containing the most space-filling design. This pattern was later found to be in evidence in one case. In Table 2 are listed the numerical answers for the four patterns.

For Set D, whose theme is permutations of patterns, two of the same response patterns of matching may be found as were in evidence on Sets B and C. Pattern D-1 means that the responses of the testee matched the design in the matrix above

the answer space and Pattern D-2 means that the response of the testee matched the design in the matrix to the left of the answer space. In Table 3 are listed the numerical answers for the two patterns of Set D.

For Set E it is obvious that the now familiar two-response patterns of matching may obtain. Response Pattern E-1 means that the testee responded by matching the design in the matrix above the answer space, and Pattern E-2 means that the testee responded by matching the design in the matrix to the left of the answer space. In Table 4 are listed the numerical answers for the two patterns of Set E.

The above patterns may be detected very simply. Consider the response sheet of the testee after it has been marked for correct and incorrect responses. Check the incorrect responses

TABLE 3
Incorrect Response Patterns Set D

Problem Number.....	1	2	3	4	5	6	7	8	9	10	11
Numerical Key Pattern D-1.....	4	2	4	1	2	8	2	8	6	3	4
Numerical Key Pattern D-2.....	—	2	4	2	4	2	3	6	7	6	1

TABLE 4
Incorrect Response Patterns Set E

Problem Number.....	1	2	3	4	5	6	7	8	9	10	11	12
Numerical Key Pattern E-1.....	4	7	3	1	6	3	8	—	2	8	5	8
Numerical Key Pattern E-2.....	1	2	1	5	5	6	5	—	8	5	7	4

against the patterns listed above and indicate on the score sheet under what pattern each incorrect response classifies. When this is done a quick glance at the sheet will enable the examiner to tell if the subject's responses fall into one of these patterns and, if so, what pattern.

It may now be seen that several possible response patterns to Sets B through E have been formulated. Although the possibility that there may be additional patterns must not be overlooked, the next logical step is to check with recorded results of this test and see if any of the proposed patterns obtain.

Population

The active case files of the Research Laboratory at the Training School were searched for subjects who had taken the

Progressive Matrices Tests. All of those subjects who were diagnosed as mentally deficient or potentially so were selected. From an examination of these response sheets it became apparent that the subjects generally did not give many correct responses after they once started to fail. In other words, if a subject failed the tests of Set B he usually got very few, if any, correct responses on the remaining three sets. Because of this and because we have found no incorrect response pattern for Set A our population was modified by setting a minimum score of 13 points. To make certain that a subject did not have too high a score to prevent the pattern hypothesis from being tested the population was further modified by fixing a maximum score at 30 points. Thirty-three subjects were found who met the above criteria.

These subjects ranged in life age from 11.3 to 55.3 with a mean of 20.9; they ranged in 1916 Stanford-Binet MA from 5.6 to 13.6 with a mean of 8.7; the range in *Progressive Matrices* score was from 13 to 26 with a mean at 18; five were girls and 28 were boys; the aetiologies, in terms defined by Doll (1), were 12 exogenous, 13 endogenous, 3 mixed, and 5 undetermined. None of the special clinical types, such as mongolians, is represented.

Results

In terms of incorrect responses it was found that the thirty-three subjects could be classified into four groups. The first group consists of 11 subjects whose incorrect responses at no time classified under a pattern. The second group comprises 14 subjects whose incorrect responses first fell into a pattern but ultimately fell into no pattern. The third group includes six subjects whose incorrect responses all fell into a pattern. The last group is composed of two subjects whose incorrect responses at first fell into no pattern but ultimately fell into a pattern.

Since the emphasis at Vineland regarding these *Progressive Matrices Tests* has been upon quantitative score, the examiner does not usually give the whole test to a subject but rather stops the test when it becomes apparent that the testee has stopped trying and is responding incorrectly. It is quite possible, therefore, that the responses of four of the subjects in group three (those whose incorrect responses fell into a pattern

throughout) would ultimately have fallen into no pattern had the subjects been permitted to continue long enough.

The results of this study show rather definitely that (a) the wrong responses of some children fall into a pattern up to a certain point; (b) the wrong responses of other children all fall into a pattern; (c) the wrong responses of still other children fall into no pattern. Why does this difference occur?

Discussion

The logical first step in trying to explain why these patterns obtain is to consider the data and to see if anything is indicated. The data were checked and no substantial basis for explanation of these incorrect response patterns was discovered. It is probable that any one or all of five variables—sex, life age, mental age, test score, and aetiology—may effect pattern response. Therefore, it is not at all surprising that the present 33 cases, in which none of these five possible variables was controlled, should offer no clues as to the cause of these patterns.

It has been stated that the examining technique used at Vineland with regard to the *Progressive Matrices Tests* seeks responses from the testee, only so far as it is apparent that the subject is trying to solve the problems. When the subject obviously starts to guess, the examiner stops administering the tests. It is believed that the point at which the testee stops trying to solve the problems and starts guessing is the point at which his responses stop falling into a pattern and begin to conform to no pattern. Reasoning in this manner it would appear as though these response patterns could be considered as evidences of the level of maturation of the educative process.

Perhaps these levels could be considered hierarchically. The highest level of maturation would be that of solving all the problems correctly. The next highest level would be correct responses by the testee to the first problems, then incorrect responses but responses which classify under a pattern, and finally responses which fall into no pattern. The third level would be a continuous pattern of incorrect responses. The lowest level, then would be responding in no pattern at all.

It is also believed that these incorrect response patterns may bring to light aetiological differences. It is the clinical

observation at Vineland that of exogenous and endogenous children with approximately the same Binet MA level, the exogenous tend to do poorly on these tests while the endogenous seem to earn a Progressive Matrices median age which is more in keeping with their Binet MA. Thus, by setting a minimum score of 13 points as one of the criteria for selection, the population of the present study was prejudiced against exogenous children.

In terms of maturational levels and if the possible variables could be controlled, it might be that more of the incorrect responses of endogenous children would fall into patterns than the incorrect responses of exogenous children, all other factors being equal. Because of the many factors involved, this would be a difficult study to accomplish, but it should be quite revealing.

In suggesting that most of the subjects at some point realize that they are responding incorrectly and begin to guess or, as Raven put it, "abandon all effort," an additional and important psychological point is raised by this study. Just why does the testee at a particular point begin to guess or stop trying or abandon all effort? What prompts him to do so? How does the subject know that his responses are incorrect, but yet can do nothing about it? This may be analogous to that point in the *Kohs Block Design Test* at which the testee states that although his design is incorrect, he cannot make it correct. If it be true that the point at which the incorrect responses stop falling into a pattern is the point at which the subject quits trying, it is quite possible that these patterns may help in explaining just what it is that causes the subject to quit trying.

Summary

A brief description of the *Progressive Matrices Tests* has been given. It was observed that the incorrect responses of mentally deficient subjects to these tests often fall into certain patterns and possible response patterns were proposed. An examination of the results of 33 mentally deficient subjects on these tests revealed that the incorrect responses of some subjects fell into patterns, of other subjects only partially fell into patterns, and of yet other subjects fell into no pattern. It was suggested that

these incorrect response patterns might be evidences of maturational levels, that they might show aetiological differences, and that they might help to answer the question of why a subject at some point in the test quits trying. It is also suggested that further research, with a larger sample and control of variables, would prove worthwhile.

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AN IBM MACHINE METHOD OF GRADE-POINT PREDICTION FOR USE WITH LARGE GROUPS

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IN THE fall of 1939 a psychological testing program was initiated at the Pennsylvania State College under the direction of R. G. Bernreuter (1). One of the features of this program, an individual grade-point prediction for each student in the school in which he enrolled, has become very useful in vocational guidance (2). This prediction ordinarily was made by either clinicians or competent clerical help (3). Raw scores of the various tests required in the multiple-regression formulae were placed on a prepared mimeographed prediction sheet.

Corresponding weighted scores, $\beta \frac{X}{\sigma}$, were obtained from previously prepared tables, recorded on the prediction sheet, and totaled. A different formula was used for each of nine different prediction groups: two-year agriculture, general agriculture, scientific agriculture, chemistry and physics, engineering, mineral industries, lower division men (Liberal Arts), lower division women, and home economics (4). The formulae varied from group to group. Each used from three to six of the following variables: high-school rank; Moore-Nell (*Pennsylvania State College Academic Aptitude Examination*) vocabulary, paragraph reading, arithmetic processes, English usage, and algebra (5); certain raw scores from the Men's and Women's *Strong Vocational Interest Blank*; one scale from the *Bernreuter Personality Inventory*.

During World War II, due to a shortage of clerical help and the greater demand of counseling on the time of clinicians, an IBM machine method of prediction was worked out by the author under the supervision of Dr. B. V. Moore, head of the Psychology Department and also, at that time, acting director of the Psychology Clinic.

This method was first placed in operation in the fall semester of 1945-46 with a freshman group of approximately 1500 students. The time for the method of prediction, recording, weighting, and totaling by IBM machine cannot be estimated with precision since many pertinent details were converted and revised from the old system. It is safe to give an approximation of ten hours with an empirically estimated error of two hours for one operator. An estimate of the time required for the customary method by which clinicians predicted from the mimeographed sheets and tables would fall between 200-250 hours for an equivalent number of students receiving prediction.

Some of the chief problems involved in developing the method are given below. The solutions to these problems may be an aid in converting any hand prediction method into an IBM machine process.

1. Elimination of negatively weighted scores.
2. Devising a method of obtaining the predictions by direct addition.
3. Assigning weighted scores from given raw scores.
4. Devising a method of totaling the weighted scores.
5. Providing standardized methods of procedure.

Elimination of Negatively Weighted Scores

Each raw score for any variable had already been converted to a z score and multiplied by its corresponding B to give a weighted score. The raw score and its weighted score were listed in table form (2). Negatively weighted scores were eliminated in the customary manner by adding a positive value to all scores equal to the highest minus weighted score in that given variable (see Table 1). All illustrations will be drawn from predictions of grade-point success in scientific agriculture since it contains the average number of variables and the same problems were common to all the prediction groups. Table 1 shows the variables and highest negatively weighted scores for each variable. Table 2 illustrates the elimination of negatively weighted scores in the first variable, high school fifth.

Obtaining the Prediction by Direct Addition

After converting the weighted scores of each set of variables into positive numbers, there now remained an increase in

weighted scores such that each final prediction exceeded the correct prediction by the sum of the highest original negative weights for all the variables in the formula, in this case 2.39; that is, a student's prediction which should have been 1.62 was now 4.01. The solution proved easier than anticipated for it was only necessary to add a quantity of such value that the total increment, including the 2.39 points excess obtained by elimination of negatively weighted scores and the negative

TABLE 1

Variables Used for Predicting Grade-Point Success in the Curriculum of Scientific Agriculture Showing the Highest Possible Negatively Weighted Score for Each Variable

Variable	Highest Negatively Weighted Score
High School Rank.....	-.07
Vocabulary.....	0.00
Algebra.....	0.00
Life Insurance Sales.....	-2.24
Constant.....	-.08
Total increment to each prediction after negative values were removed.....	2.39

TABLE 2

Showing the Elimination of Negative Weights in One Variable

High School Fifth	Original Weighted Score $\beta \frac{\Sigma X}{\sigma}$	New Machine Weighted Score Org. Score + .07	New Machine Weighted Score plus 7.61
1st (highest)	.80	.87	8.48
2nd	.37	.44	8.05
3rd	.08	.15	7.76
4th	.08	.15	7.76
5th	-.07	.00	7.61

constant, would equal 10 for a prediction group. Thus, if an additional 7.61 was added to the prediction a prediction of 4.01 would now become 11.62; since the one in the tens position is superfluous it may be neglected in recording by machine. This additional increment, 7.61, was included in the high-school rank machine-weighted scores (see Table 2).

An IBM Machine System for Assigning Weighted Scores

The raw scores had been recorded and punched on IBM cards in the course of the usual testing program. *Strong Vocational*

Interest Blank scores and *Bernreuter Personality Inventory* scores were recorded automatically in the process of scoring with a 285 Numeric Accounting Machine and a summary punch. Moore-Nell (P.S.C.A.A.E.) part and total scores and high school fifth were key punched. This data mentioned was always thus recorded for both research and the facilitation of working with large group data. It was only necessary to add a

TABLE 3

Showing Corresponding Original and Machine Weights in Predicting from Raw Scores of a Student Enrolled in Scientific Agriculture Curriculum

Variable	Raw Scores	Weighted Scores	Machine Weighted Scores
High School Fifth	2	.37	8.05
Moore-Nell (PSCAAE)			
Vocabulary	83	.66	.66
Algebra	33	1.93	1.93
Strong V.I. B.			
L. I. Sales	1896	-.89	1.35
Constant		-.08	included in H.S.F. weight
Total Prediction		1.99	11.99

TABLE 4

Showing the Arrangement of Data on Master "X" Cards According to Columns for All Variables Required in the Prediction Formula for Scientific Agriculture

Variable*	"X" Punch	Group	Raw Score	Gang Punch Weighted Score
16	COLUMNS 17	18	COLUMNS	
1	"X"	I	22	38, 39, 40
2	"X"	I	23, 24, 25	41, 42, 43
3	"X"	I	26, 27, 28	44, 45, 46
4	"X"	I	29, 30, 31	47, 48, 49

* Variable 1 is high school fifth, 2 is Moore-Nell vocabulary, 3 is Moore-Nell algebra, and 4 is Strong's scale for Life Insurance Sales.

punch to indicate the prediction group into which an individual fell, then transfer all data by a 513 Reproducing Summary Punch to a prediction card. Corresponding weighted scores for the raw scores were punched on the master "X" cards into columns determined by the absence of data in the prediction card. Each master "X" card was then "X" punched in column 17 in this case. Table 3 illustrates the data punched into the master "X" cards for the scientific agriculture group. These master "X" cards may be a permanent set of cards to be

used as long as the prediction formula with which they correspond is used.

All weights for a given variable were assigned at once for all individuals in a prediction group by sorting the master "X" cards in front of the detail cards on the card columns of each variable field. By interspersed master "X" gang punching of the 513 Reproducing Summary Punch the weighted score was transferred to each following detail card for that group and variable.

For example, to sort, the master "X" cards for a prediction group were placed in the 080 Sorting Machine first with the prediction or detail cards placed behind them. Cards were then sorted on the first variable, which was high-school rank, column 22, in Table 4. Since the master "X" cards are placed in the sorter first for a given variable, they will sort ahead of the detail cards into positions of increasing values for that variable. Therefore, the master "X" cards were the first of any given value or groups of values. To explain in more detail and considering that we have a variable of more than one column, if there are ten cards with a raw score of 22 and several cards with a raw score of 23 and some with a score of 24, we still put the master "X" cards in the 080 Sorting Machine first with the details behind, remembering that we now sort the units column first and the tens column second. The first card in the 22 raw score value will be the master "X" card for 22 followed by the corresponding detail cards, a master "X" card for 23 followed by its details, and a master "X" card for 24 with its details. Since the master "X" card is first, it is now possible to punch the corresponding weighted score already on this card for that score into all the following detail cards which have a score of 22. The first card for the 23 scores being a master "X" card, and due to its "X" punch, allows the 513 Reproducing Summary Punch to discontinue punching the weighted score for 22 and start punching the weighted score for 23.

This process continues for as many raw scores as are in that variable. This process makes the punching of differential weights for 100 or more scores no more difficult than the punching of a single weight. The necessary condition is that each master "X" card must have its "X" punch in a column in

which there is no "X" punch in the detail or prediction card since it is this "X" punch which controls the change of weight values from one raw score to another.

This same process of sorting and master "X" interspersed gang punching continues for as many variables as are required for the prediction of that group. For 1500 students divided into nine groups the amount of time used for sorting and gang punching was three hours. It may be done faster, but assigning weighted scores for each group separately appeared to avoid mixing master "X" cards with non-corresponding groups of prediction cards.

Totaling the Weighted Scores for Each Individual

The IBM 405 Alphabetic Accounting Machine in conjunction with the IBM 513 Reproducing Summary Punch was used to total the weights and record the totals. There are several ways in which this may be done. The method used was a process of crossfooting groups of two weights on the 405 Accounting Machine and summarizing simultaneously on the 513 Reproducing Summary Punch both the student identification and the totals summated. In the scientific agriculture group the weighted scores for high-school rank were added to those of the Moore-Nell vocabulary, and algebra weighted scores were added to *Strong Vocational Interest Blank* Life Insurance Sales weights. The summary cards in the 513 Reproducing Summary Punch now contain two weighted scores which need to be further crossfooted in order to obtain the final prediction. These cards are now crossfooted again and the final prediction is summary punched on the prediction cards.

Any further treatment depends upon the method of reporting. At the Pennsylvania State College all predictions are given a punch indicating into which interval of .33 grade-points they fall. This punch is then transferred to the Master Clinical Card which is used in a reporting interview.

Errors

Most of the foreseen errors have been eliminated in arranging the procedure. If master "X" cards have been made accurately, another possibility of error is in matching a set of

master "X" cards with the wrong prediction set. This may be avoided if both prediction and master "X" cards are sighted through a common group punch—this was in column 18 on the cards used. Colored master "X" cards, e.g., blue for scientific agriculture, orange for home economics, etc., with an opposite corner cut from the detail cards, which are *interpreted* by the IBM 553 Interpreter, aids in preventing such errors. Machine errors may be avoided by the customary precautions taken to detect defective functioning of equipment. Working with one prediction group at a time appeared to be the simplest and least confusing procedure. Loss of statistical precision through loss of actual $\beta \frac{X}{\sigma}$ values as in the method suggested by Segel is avoided. Likewise, there is no process of rewiring for each new formula (6).

Summary

A method of machine prediction was attempted at the Pennsylvania State College during the Fall Psychological Testing Program of 1945-46. This is a method of making predictions of grade-point average for the first semester for each individual. Certain problems were solved to make the method possible. Negatively weighted scores were made positive by the addition of a quantity equal to the largest negative score for each variable. The addition of another value, which made the total increment for all variables, including the constant, equal to 10, made possible the final prediction by direct addition. A process utilizing master "X" cards was used to assign prediction weights. A process of crossfooting was used to total the weights. Careful following of procedure reduced possibilities of error. Precise values were not lost by coding procedures. This process is dependent upon the use of IBM punch card equipment.

Conclusions

1. It is possible to predict individually for large groups by means of IBM machines.
2. Variations in regression formulae for different groups which are being predicted simultaneously have little influence

upon time consumption although increases in the number of variables within any formula does increase time.

3. The saving in time, of at least fifteen to twenty times, recommends the IBM machine method over a hand-recording method for larger groups.

4. Clerical accuracy is improved since the IBM machine method reduces possibility of clerical error by a standardization of procedure.

5. The process is an improvement over previous machine methods, but has possibilities of further development.

6. This method suggests the practicability of increased use of individual statistical predictions with large groups as a check against the validity of psychological instruments and improvement of statistical techniques.

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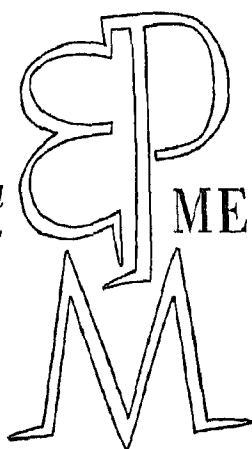
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TOWARD MORE ADEQUATE CRITERIA OF COUNSELING EFFECTIVENESS¹

CLIFFORD P. FROEHLICH

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WHEN is counseling successful? Some enthusiastic writers have credited primitive man with the origin of the counseling process. Yet in this long history we have not developed adequate criteria of counseling effectiveness. Numerous investigators have dealt with evaluation of counseling, but no one has indicated complete satisfaction with the criteria employed. Typically, their reports have ended with a suggestion for further research, especially with an investigation to improve the criteria. Many guidance workers have carefully analyzed the problem. Examples of this thoughtful approach are found in a symposium published in *Occupations* in 1936. Stott² in this symposium is dissatisfied with the criteria used in previous evaluation studies. These criteria were: (a) the number of positions held, (b) the length of tenure of positions, (c) the reasons why positions have been left, (d) reports from employers on the efficiency of work, and (e) reports from workers as to the satisfaction with work. Although she finds fault with the use of these measures, she concludes that some combination of them might be desirable. She suggests that a judgment criterion based on success and happiness on the job be employed. The judgment would be arrived at by taking personal satisfaction with one's work and modifying it by certain estimates, by examination results, or by obvious signs of lack of success. She favors only three criterion categories: successful, doubtful, and unsatisfactory. Viteles³ in the same symposium stresses

¹ The data upon which this report is based were obtained in an evaluative study of the State Consultation Service, Richmond, Virginia. The General Education Board, the State Board of Education of Virginia, and the Office of Education, Federal Security Agency, each made a substantial grant to finance the study.

² Mary B. Stott, "Criterion Used in England," *Occupations*, XIV(1936), 953-957.

³ Morris S. Viteles, "A Dynamic Criterion," *Occupations*, XIV(1936), 962-967.

the complexity of the problem involved in the definition of success or failure in setting up criteria for the evaluation of counseling. He suggests that we change our orientation and elaborate our methods in the experimental studies of vocational success so that they permit a study of the dynamic interrelationships among the very many diverse factors making for success or failure in work. The concern of both Stott and Viteles with the lack of an adequate criterion is typical of many guidance workers. The study reported here took its cue from this concern. This investigation was designed to provide some comparative data on criteria which have been used or proposed for evaluating counseling.

The study is based on a population of 740 persons who had availed themselves of the counseling services offered by the State Consultation Service at Richmond, Virginia. This sample included only former counselees whose cases were considered inactive or completed on January 1, 1947. All cases had registered with the Service for counseling during the years 1939 through 1946.

The State Consultation Service is a state-supported, free counseling agency. Its present professional staff is composed of a directing counselor, 4 counselors, 1 psychologist, and 1 research worker and editor. In addition to counseling with individuals, the Consultation Service provides a test-scoring service, publishes a monthly journal entitled *Work and Training*, and conducts an in-service training program for school guidance workers. The Service is well known and respected by guidance leaders throughout the East.

Typically, the counseling process for each individual at the Consultation Service follows a similar pattern. The counselee comes for service and is interviewed by the directing counselor. If the client's problem appears to be one within the scope of services rendered, he is assigned to a counselor. After completing several registration forms, the client is interviewed by the counselor to obtain a complete case history. If at the end of the interview, the counselor feels that test data are needed, an appointment with the psychometrist is made. After testing is complete, the counselor presents all data at hand to a staff

conference. Here an effort is made to arrive at a diagnosis of the client's problem and to plan the counselor's role in its solution. The counselor then begins the series of counseling interviews, which he continues until the case is closed. Before a case is closed, the directing counselor reviews the record to assure himself that all possible assistance has been given.

Efforts to contact the 740 persons included in the study resulted in 279 follow-up interviews. In other words, 37.7 per cent of the former counselees furnished data upon which this study is based. There is evidence that the persons interviewed are reasonably representative of the original population. When the two groups were compared in respect to age and sex, no significant differences between the groups were found. For all practical purposes, the interviewed sample may be considered representative of former clients selected for study.

Interviews

It was recognized at the outset that the reliability of the information obtained would depend upon the quality of the interviewers. Consequently, three minimum qualifications for interviewers were formulated. The first was a thorough training in personnel psychology. The second requirement was that the interviewers have satisfactory personal qualities. The third, which is somewhat unusual, was that they be reared in the South. This final qualification was established to make it easier for the interviewer to gain the confidence of the counselees, who were themselves Southerners. These standards were met by the two interviewers employed. Both, when first contacted, were completing their Master's degrees; one in clinical psychology and one in guidance work. Although they attended different universities, both had supervised clinical practice.

During the interview with clients, the interviewers were required to ask certain specific questions. The items of information sought are listed in the schedule shown in Figure I. The items included in the follow-up interview schedule (Figure I) were formulated after reviewing the literature. An attempt was made to include a variety of items. Although some of the

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NAME.....ADDRESS.....PHONE.....

--- 1. Case number.

--- 4. Marital status: 1—Single 2—Married 3—Divorced 4—Widowed 5—Separated

--- 5. Present educational status: 1—4 or less grades 2—5 to 7 grades 3—completed elementary 4—Some HS 5—Completed HS 6—Some College 7—College graduate 8—Graduate work 9—Business or technical school

Indicate change since counseling.

--- 6. Employment status: 1—Unemployed, seeking work 2—Unemployed, not seeking work 3—School, full time 4—Employed on non-relief job 5—Employed on relief job 6—Employed on part-time job

--- 7. Present occupation (DOT code) Use 999 for "attending school full time."

NOTE: If 7 is coded 999, put zeros in items 10, 11, 12, 13, and 14.

OCCUPATIONAL ADJUSTMENT

--- 10. How much did SCS help you PLAN for the type of work you are doing now? 1—Great deal 2—Some 3—None

--- 11. Did SCS influence your decision to take present work in ways other than PLANNING? 1—Yes 2—No

--- 12. If you did not follow plan, why didn't you?
1—No plan suggested 2—Didn't like plan 3—Health 4—Finances 5—Family influence 6—Armed forces 7—Tried and failed 8—Other (Specify).....
9—Followed plan

--- 13. Are you satisfied with work, prospects, and pay of your present position?
1—Work, prospects, pay 2—Work, prospects 3—Work, pay 4—Prospects, pay 5—Work 6—Prospects 7—Pay 8—None 9—Unemployed

--- 14. If you want to change work, why do you want to?
1—Like other work better 2—More money 3—More opportunity 4—Not getting along in present job 5—Family or friends want me to 6—Forced to change 7—More ability in other line of work 8—Other reason 9—No change desired

NOTE: If 14 is coded 9, items 15 to 19 are used, but zeros in items 15, 16, 17, 18, and 19.

--- 15. How much did SCS help you for the type of training you are taking? 1—Great deal 2—Some 3—None

--- 16. Did SCS influence your decision to take training in other ways than PLANNING? 1—Yes 2—No

--- 17. If you did not follow plan, why not?
1—No plan suggested 2—Didn't like plan 3—Health 4—Finance 5—Family influence and failed 8—Other (Specify).....
9—Followed plan

--- 18. Are you satisfied with this training? 1—Very well 2—Fairly well 3—No

--- 19. If you are not satisfied with training, what do you plan to do?
1—Another school of same type 2—Different type of training 3—Keep on anyway 4—Get a job 5—Am satisfied

--- 20. On a scale of 100, considering a state of average adjustment as 50, indicate your estimate of the occupational (or educational) adjustment at the time of interviewing this interviewee.

PERSONAL ADJUSTMENT

--- 22. Did you find the spare time activities suggested by SCS helpful? 1—Yes 2—No 3—None suggested

--- 23. Did the SCS help with any personal problems other than vocational? 1—Yes 2—No 3—No other problems

--- 24. At the time of counseling, did you have problems which the SCS did not discuss with you?
1—Yes 2—No If yes, what kind of problems?

--- 25. Do you have perplexing personal problems now? 1—Many 2—Few 3—None

--- 26. With whom do you for the most part participate in social activities?
1—Business associates 2—Friends from church or club 3—School friends 4—Old friends in community 5—No one in particular 6—Family 7—Other

--- 27. How do you feel about the number of social activities in which you take part?
1—Have just about right amount 2—Would like more 3—Have too many

--- 28. On a scale of 100, considering a state of average adjustment as 50, indicate your estimate of the personal adjustment at the time of interviewing this person.

GENERAL ITEMS

--- 30. How well do you remember the SCS? 1—Quite well 2—Fairly well 3—Hardly at all

--- 31. Do you feel that your counselor was helpful? 1—Very much 2—Some 3—Not at all

--- 32. Which of the following was most helpful?
1—Tests 2—Counselor's suggestions 3—Just talking it over 4—Vocational information from library 5—Some one the counselor suggested you contact 6—All generally helpful

--- 33. Which of the following was least helpful?
1—Tests 2—Counselor's suggestions 3—Just talking it over 4—Vocational information from library 5—Some one the counselor suggested you contact 6—All of little help

--- 34. Have you recommended the SCS to anyone? 1—3 or more persons 2—1 or 2 persons 3—No one

--- 35. Comparing counseling services with other kinds of professional services which have been rendered you, what do you think would have been a fair price to have paid for counseling? If over \$999, record here.....

--- 38. Do you think that the State Department of Education should provide a Consultation Service? 1—Yes 2—No

--- 39. Interviewer: 1—Spivey 2—Snell 3—Froehlich

--- 40. Do you have any suggestions for improving the Consultation Service? 1—Yes 2—No What are they?.....

FIGURE I—SCHEDULE FOR RECORDING FOLLOW-UP DATA

items were modified, the basic element of each had been previously used or proposed by guidance workers as a suitable criterion for the evaluation of counseling.

It was left to the interviewer to decide the order in which questions were asked. No restrictions were placed on the use of additional questions or the length of the interview. At the conclusion of the interview, the interviewers rated the occupational (or educational, if attending school full time), and personal adjustments of the client. They were given the following written instructions regarding ratings:

On a scale of 100, considering a state of average adjustment as 50, indicate your estimate of the personal adjustment of this person at the time of interviewing.

The same instructions for the other ratings were used by substituting "occupational" or "educational" for "personal." The ratings were recorded in numerical form on the follow-up schedule shown in Figure I.

This procedure of having interviewers rate former counselees on their vocational and personal adjustment is fraught with danger. Ratings were used in this investigation for two purposes: (1) to give the interviewer a convenient means of expressing his general opinion of the client's adjustment; and (2) to provide a means of comparing this interviewer-judgment criterion with other criteria.

Before the interviewing of former counselees was begun, two steps were taken to increase the reliability and validity of this process. First, one of the interviewers and the writer interviewed each of the counselors on the staff jointly. Role-playing techniques were used, with the counselors taking the role of former counselees. This gave an opportunity to test the wording of the questions and to get the feel of the interview. Ratings assigned independently by the interviewer, counselor, and the writer were compared informally. The reasons for discrepancies were discussed; where questions had been misleading, they were re-phrased.

One counselor then selected 5 and another selected 6 former counselees about whom they had extensive information regard-

ing occupational and personal adjustment. They were instructed to select only those counselees for whom they felt they could make valid adjustment ratings. One interviewer then interviewed these 11 counselees and rated their adjustment. The rank difference correlation between interviewer's and counselors' ratings for occupational adjustment was found to be $+ .737$. For personal adjustment it was $+ .794$. Although these coefficients are not as high as desired, they do indicate substantial agreement between counselors and this interviewer. Upon the basis of this evidence, the rating procedure was considered worthy of further trial.

Each of the interviewers interviewed 25 former counselees. At intervals they sat down together and rated each other's interviewees in the following manner. The person who had interviewed the client would reproduce the interview as accurately as she could. The other interviewer would continue to ask questions until she was ready to make a rating. In cases where these questions had not been asked of the client, no response was given. The role-playing interviewer's attempt was to report facts obtained, but not impressions. The original ratings which had been made were not revealed to the interviewers until after re-ratings were completed. Rank-difference correlation coefficients were then computed. When ratings made by the real interviewer were compared with re-ratings by the second interviewer, the rank-difference correlation coefficient for personal adjustment was found to be $+ .811$, and for occupational adjustment, $+ .776$. When the roles of these two interviewers were reversed, the coefficients were $+ .902$ and $+ .900$, respectively. The data on the comparability of ratings are not presented as conclusive evidence. They represent, rather, the results of a preliminary skirmish with a very difficult research problem.

At the conclusion of the follow-up interview, the personal adjustment of all clients was rated. The distribution of each interviewer's ratings of personal adjustment is shown in Table 1.

Table 2 presents the distribution of occupational adjustment ratings. Only employed clients were rated. The total employed sample is composed of 206 persons. Clients attending school full time were rated on their educational adjustment.

Since they numbered only 26, they are excluded from the study. The personal adjustment ratings of these clients are, however, included.

The data presented in Tables 1 and 2 indicated the probability of interviewer differences. Therefore, the significance of the difference between mean ratings was ascertained. It

TABLE 1
Distribution of Personal Adjustment Rating for Each Interviewer

Rating	Interviewer 1		Interviewer 2	
	Number	Cumulated %	Number	Cumulated %
0-10	3	2.2	1	.7
11-20	1	2.9	2	2.1
21-30	3	5.1	11	9.8
31-40	8	11.0	8	15.4
41-50	15	22.1	24	32.2
51-60	4	25.0	1	32.9
61-70	11	33.1	20	46.9
71-80	31	55.9	36	72.0
81-90	49	91.9	31	93.7
91-100	11	100.0	9	100.0
Total.....	136		143	

TABLE 2
Distribution of Ratings of Occupational Adjustment of Employed Persons

Rating	Interviewer 1		Interviewer 2	
	Number	Cumulated %	Number	Cumulated %
0-10	2	1.9	5	4.9
11-20	2	3.9	2	6.9
21-30	9	12.6	10	16.7
31-40	6	18.4	10	26.4
41-50	7	25.2	8	34.3
51-60	1	26.2	0	34.3
61-70	5	31.1	12	46.1
71-80	24	54.4	21	66.7
81-90	32	85.4	16	82.4
91-100	15	100.0	18	100.0
No rating*	1	0
Total.....	104		102	

* Excluded from computation of cumulated percentages.

can be seen from Table 3 that the difference between interviewers' ratings of personal adjustment is highly significant. Since it was desirable to have as large a number of cases as possible for the analysis, the raw ratings of both interviewers were converted to a five-point scaled rating. This was accomplished by assigning that per cent of the cases to each

scaled rating that would have been obtained in a normal distribution. Scaled ratings were set at intervals of one standard deviation, the middle interval extending one-half standard deviation in each direction from the mean of a normal distribution. Thus, the theoretically scaled rating 5 was assigned to the highest 7 per cent of each interviewer's ratings. The next 24 per cent of the ratings were assigned a scaled rating of 4. The scaled ratings 3, 2 and 1 were each assigned to 38, 24 and 7 per cent of ratings, respectively. Only minor deviations from theoretical percentages occurred in the distribution of scaled ratings actually obtained. In the analysis of the data in this investigation, these scaled ratings were used in preference to raw ratings.

TABLE 3
The Mean, Standard Deviation, Difference Between Means, Standard Error of Mean, and Critical Ratio for Interviewers' Ratings of Clients' Adjustment

Type of Adjustment	Interviewer				Difference between Means	Standard Error of Difference	Critical Ratio
	One		Two				
	Mean	S.D.	Mean	S.D.			
Occupational	81.4	25.1	86.9	26.8	4.7	3.5	1.3
Personal	80.4	21.6	66.1	21.6	14.3	2.6	5.6

Treatment of the Data

The data were transcribed to punch cards from the interview schedule according to the code shown in Figure I. Tabulations were completed by machine.

The interview follow-up data were first analyzed for relationships among the various items. The purpose of this analysis was to find those variables which appeared to be satisfactory criteria of counseling effectiveness. The computation involved only routine statistical procedure. As a measure of the independence of the variables, *chi* square was computed. P-coefficients were then obtained from Pearson's tables⁴ to indicate the chance probability of obtaining a *chi* square of

⁴ Karl Pearson, *Tables for Statisticians and Biometricians*, Part I. Second Edition, pp. xxi-xxxiii, 26-28. London: University College, Biometric Laboratory, 1924. (In cases where the degrees of freedom exceeded 29, the P-coefficient was obtained by using the expression $\sqrt{2X^2} \sqrt{2n-1}$ as a normal deviate with unit standard error. The error in degrees of freedom in Pearson's table was corrected according to the method proposed by G. Udny Yule and M. G. Kendall, *An Introduction to the Theory of Statistics*, p. 389. London: Charles Griffin and Company, 1937.)

that magnitude with the given number degree of freedom by chance. The coefficient of contingency was used to indicate the degree of relationship between variables. Thus probability of a true relationship and an indication of its intensity were obtained.

Findings

The data dealing with educational adjustment were eliminated because only 26 cases were obtained in these categories. Intercorrelations among the remaining follow-up items were obtained. This table of intercorrelations was then inspected as a basis for selecting criterion items. Three standards guided the selection of items. First, the items should be relatively independent of other criteria used in this investigation. Second, the items should not be greatly influenced by the bias of the follow-up interviewer. The third standard was that the items should hold promise of being rather stable. The mechanical application of these standards for the selection of criteria was not possible. In their application it was necessary to take into consideration the nature of the basic data. For example, the changes in clients' marital status was rejected as a possible criterion because it was so closely associated with the amount of time elapsed since counseling. The kind of associates was not used because the distribution of responses precluded the development of meaningful categories, containing sufficient numbers.

Data relative to the relationships among the items selected are presented in Table 4. When a P-coefficient of .05 or less was obtained for the relationship, an asterisk appears with the contingency coefficient shown in Table 4. Therefore, the relationships which are significant at the 5 per cent level can be identified readily.

Occupational Adjustment Criterion

The occupational adjustment criterion items are the first three shown in Table 4. It can be seen that they correlate significantly among themselves. Thus, they meet one of the standards, because such intercorrelation can be expected to contribute to their stability as an occupational adjustment

TABLE 4
Contingency Coefficients among Follow-up Items Selected as Criterion Items

Criterion Items†	1	2	3	4	5	6	7	8	9	10	11
Contingency Coefficients											
Occupational Adjustment Criterion											
1. Job satisfaction (2-13).....	—	*.538	*.659	*.352	*.293	*.483	.099	.194	.165	.109	.077
2. Job change desired (2-14).....	*.538	—	*.548	*.314	*.251	*.322	.094	.077	.032	.129	.055
3. Occupational adjustment rating (2-20).....	*.659	*.548	—	*.504	*.415	*.563	.232	.224	.201	.205	.165
Personal Adjustment Criterion											
4. Has perplexing problems (2-25).....	*.352	*.314	*.504	—	*.343	*.586	.143	.129	.122	.089	.055
5. Number of social activities (2-27).....	*.293	*.251	*.415	*.343	—	*.441	.118	.099	.207	.030	.099
6. Personal adjustment rating (2-28).....	*.483	*.322	*.563	*.586	*.441	—	.061	.220	.253	.252	.089
Client's Attitude Criterion											
7. Remembrance of counseling (2-30).....	.099	.094	.232	.143	.118	.061	—	*.385	*.397	.179	.077
8. Helpfulness of counselor (2-31).....	.194	.077	.224	.129	.099	.220	*.385	—	*.299	.104	.129
9. Recommended counseling to others (2-34).....	.165	.032	.201	.122	.207	.253	*.397	*.299	—	.212	.032
Change in Status Criteria											
10. Changed occupation (1-17 and 2-7).....	.109	.129	.205	.089	.030	.252	.179	.104	.212	—	.055
11. Obtained more schooling (1-13 and 2-5).....	.077	.055	.165	.055	.099	.089	.077	.129	.032	.055	—
Follow-up Interviewer (2-39).....	.000	*.150	—	.094	*.165	—	*.153	.109	.000	.075	.032

* A P-coefficient of .05 or less was obtained for this relationship.

† A complete statement of the items in this Table may be found by reference to schedules shown in Figures 1 and 2. The first number in the parentheses after each item refers to the Figure and the second to the item within the Figure.

criterion. They are not as independent of the personal adjustment criterion as desirable for unique criteria. From a statistician's point of view, no association between personal and occupational items would be desirable. But from the guidance worker's angle, the demonstrated relationship between the two might be taken as evidence of validity. Few guidance workers would believe that personal and occupational adjustment are not inextricably entwined. The occupational adjustment criterion items, however, do appear to be independent of the client's attitude and changed-status criteria. The job-satisfaction item used three categories: those who were satisfied with work, prospects, and pay; those satisfied with any two of these; and those satisfied with only one, or none. The responses to the question "If you want to change work, why do you want to?" were categorized into those who desired a change and those who did not. The five-fold categories on adjustment rating have been described previously.

Personal Adjustment Criterion

The personal adjustment criterion items are numbered 4, 5 and 6 in Table 4. Although they do not correlate as highly among themselves as the occupational adjustment items, a cluster of significant correlations is evident. In the application of these criterion items, greater variability may be expected than in the occupational adjustment items. The items appear to be relatively independent of the other criteria with the exception of occupational adjustment rating. This dependence was discussed in the preceding paragraph. Responses to the follow-up question, "Do you have perplexing personal problems now?" were divided into those who had problems and those who did not. The three categories of responses on the interview schedule (Figure I) were used for the question, "How do you feel about the number of social activities in which you take part?" The five-fold scaled personal adjustment rating previously described was used.

Client Attitude Criterion

The third criterion division contains items which appear to reflect the client's attitude toward counseling. They are

numbered 7, 8 and 9 in Table 4. Clearly these items tap an area not covered by the other criteria. When the three were compared with other criteria, all P-coefficients were greater than .05. When the three are compared among themselves, all P-coefficients were less than .05. In addition to this statistical justification of their use as a third criterion cluster, another factor entered into the decision to include them in the criteria. Although they do not reflect outcomes which can be considered to affect directly the status of the counselee, it was felt that their use might reveal factors which influence the counselee's attitude toward counseling. It is believed that the effectiveness of counseling depends, in a large measure, upon counselee attitude. The three categories of responses for each of the questions which are shown in Figure I were used in treating the data. The three questions in this group were: "How well do you remember the State Consultation Service?", "Do you feel that your counselor was helpful?" and "Have you recommended the State Consultation Service to anyone?".

Change of Status Criteria

The criteria which have been discussed are essentially cross-sectional items. They are designed to reveal the status, activities, or beliefs of the counselee at the time of counseling without reference to conditions prior to counseling. A longitudinal study of individuals before and after counseling represents a different approach to the problem of evaluation. Two such criteria are included in this investigation. They are shown in items 10 and 11 in Table 4. It was not within the resources available to include a great variety of items which would reflect change in status. In addition to the two items selected as criteria, marital status and employment status were included in the follow-up schedule. The distribution of response and the pronounced influence of non-counseling factors led to the decision to discard them as criteria in this investigation. Both of the change-in-status criteria appear to be independent of the other criteria.

The occupational-change criterion reflects major changes in occupation. *The Dictionary of Occupational Titles'* code for client's occupation at time of counseling was compared with the

code for his occupation at time of follow-up. For purposes of this investigation, only the changes in the first digit of the code were considered as changes. Essentially this procedure identified these persons who have moved up or down the occupational hierarchy. For example, changes from unskilled to skilled occupations were identified. But changes from machinist to carpenter would not be included. Of the 196 clients who had an occupation at time of counseling, and at follow-up, 69 had made a change.

Similarly, changes in the amount of schooling from the time of counseling to the time of follow-up were identified. Only changes from one to another of the 9 categories shown in item 5 of Figure I were considered. Of the 266 whose educational level was known at both times, 121 changed. There were only 13 of the 266 who were attending school full time at the time of counseling.

It would have been possible to identify changes which were not as gross as those selected for criteria. The gross changes appeared to be more desirable because they tend to identify the extreme cases. The writer believes that if significant relationships could not be found with these gross criteria, there is little likelihood that finer discrimination in changes would reveal significant relationships.

Summary

It is recognized that the criteria selected are not all inclusive or mutually exclusive. It appears, however, that they can be thought of as criteria which may be useful for the evaluation of four aspects considered indicative of the effectiveness of counseling. The aspects are: the counselee's occupational adjustment, his personal adjustment, his attitude toward counseling; and changes in his occupational or educational status. Another study to be reported will discuss the application of these criteria.

TEST CALIBRATION FOR CATEGORICAL CLASSIFICATION¹

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IN business and industry, as in the Armed Forces, psychological testing is usually done to facilitate the classification of personnel into predetermined categories. Common examples of such categories are acceptable or non-acceptable, satisfactory or unsatisfactory, and successful or unsuccessful. Although in reality such categories are not discrete, they must be so considered for administrative action.

For this reason a psychologist is often called upon not only to measure but to classify. When measurements are taken along a continuum similar to an ability scale, the classification of a borderline case is difficult to accomplish and the accomplishment is difficult to defend. Much of the difficulty might be avoided, however, if tests used for categorical classification were calibrated from a different point of view. The present study explores this possibility.

The Proposed Scale

It is proposed to substitute a quality scale for the conventional difficulty scale. Conventional scale values are functions of a unit-normal distribution the parameters of which are derived from one population sample. This sample is assumed to be representative of the universe from which it is drawn. Scale values in the proposed quality scale are functions of two unit-normal distributions. The parameters of one of these are derived from a population sample possessing the desired quality or qualities; the parameters of the other are derived from a population sample possessing the contrasting and undersirable quality or qualities. For scale-making purposes the quality of the first sample is judged to be higher than that of the second.

¹Based on a paper read at the annual meeting of the American Psychological Association, Detroit, September 10, 1947.

The proposed scale values are a function of the two overlapping tails. For a given score a certain theoretical proportion of cases under the upper curve will fall in the tail below this point and a certain proportion under the lower curve will fall in the tail above this point. Thus as the size of score increases, the proportion under the upper curve increases and the pro-

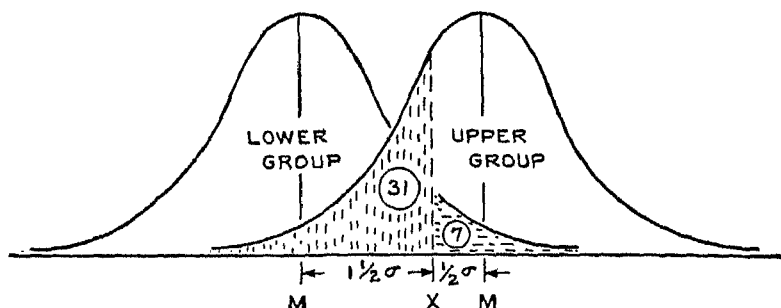


FIGURE I The Relative Likelihood of a Given Score X Falling in the Tails of Two Distributions When the Overlapping is as Shown

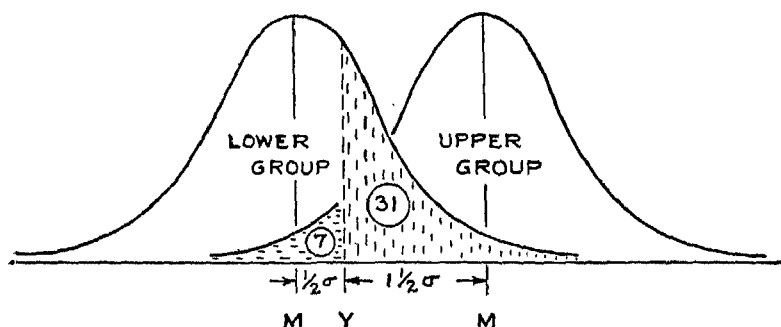


FIGURE II The Relative Likelihood of a Given Score Y Falling in the Tails of Two Distributions When the Overlapping is as Shown

portion under the lower curve decreases. Figures I and II illustrate what is meant. The score of X in Figure I is $\frac{1}{2}\sigma$ below the mean of the upper group, to the right. Normally about 31 per cent of the cases fall in the tail of the distribution below this point. But in the lower group the score of X falls $1\frac{1}{2}\sigma$ above the mean. Consequently about 7 per cent of the cases in this distribution fall in the tail above it. The two proportions to be used are therefore .31 and .07. In Figure II the situation

is reversed, and the two proportions are .07 and .31. A point (P) on the proposed quality scale is obtained by the formula

$$P = \frac{100q_u}{q_u + q_l}$$

where q is the proportion of cases in the tail of the distribution, upper or lower as the case may be, obtained from a normal probability integral table. It should be remembered, however, that in the portion of the quality scale extending beyond the mean of a distribution, these q -values usually are tabled under p instead of q .

Calculation of the complete series of points on the proposed quality scale may be illustrated by reference to Figures I and II. In Figure I, score X is $-\frac{1}{2}\sigma_u$ and $+\frac{1}{2}\sigma_l$. The corresponding q -values are, $q_u = .31$ and $q_l = .07$. Substituting these values in the above formula gives

$$P_{82} = \frac{31}{.31 + .07} = 82.$$

In Figure II, score X is $-\frac{1}{2}\sigma_u$ and $+\frac{1}{2}\sigma_l$ and has q -values of $q_u = .07$ and $q_l = .31$. Substitution gives

$$P_{18} = \frac{7}{.07 + .31} = 18.$$

A test may thus be calibrated by substituting the two q -values of each raw score in the above formula. This gives a theoretical scale beginning with zero and ending with 100, both values being mathematical certainties pertaining to the correct classification of a person in the upper one of two categories.

The 50-50 cutting point (P_{50}) is given by the following formula:

$$P_{50} = \frac{\sigma_l M_u + \sigma_u M_l}{\sigma_l + \sigma_u}$$

where subscript l refers to the lower category and u to the upper.² This point (P_{50}) is such that the proportion of lower

² I am indebted to Dr. Truman L. Kelley for suggesting this formula to replace the following:

$$P_{50} = \frac{xy}{x + y}$$

where x is the number of upper category sigmas between the two means and y is the number of lower category sigmas between the same two points. The two formulas yield

category cases falling in the tail above it equals the proportion of upper category cases falling in the tail below it. In the language of the layman, because the chances are equal, this constitutes a 50-50 chance that a person making such a score could be correctly classified in either category.

Layman are warned, however, that this procedure differs in no way from all other test calibration procedures based on functions of the normal frequency curve; all such procedures assume that the means and standard deviations used in the formula are obtained from normal distributions. In case the two distributions to be differentiated are not normal, the calibration is in error, and the greater the departure from normality the greater the error. One should also remember that the standard error of each element in the formula is partly a function of the number of cases in the distribution from which it is obtained. Therefore, if the number of cases in one distribution is smaller than the number of cases in the other, the standard error of a calibration point is thereby increased. Both distributions should be equally large, but not equally small. This is apparent from the following formula for the variance error of the P_{50} calibration point.³

$$\sigma_{P_{50}}^2 = \left(\frac{1}{N_l} + \frac{1}{N_u} \right) \frac{\sigma_l^2 \sigma_u^2}{(\sigma_l + \sigma_u)^4} \left\{ \frac{2(\sigma_l + \sigma_u)^2 + (M_l + M_u)^2}{2} \right\}$$

Empirical Try-out

To determine the functional aspects of such a scale when applied to differently spaced criterion groups, scales are here derived from successive pairs of distributions with less and less overlapping. Mental age distribution, obtained by using the *Kuhlmann-Anderson Intelligence Test* in Grades from I through VIII, were used. The number of cases in each grade varied from 1,458 in Grade I to 4,700 in Grade VIII, with a total of 24,622 cases.

Four pairings were made: Grades V and VI, IV and VI, III

identical results when the original P_{50} is converted to raw score (X or Y) by either of the following formulas:

$$X = M_u - \sigma_u P_{50} \text{ and } Y = M_l + \sigma_l P_{50}$$

³ An unpublished formula derived by Dr. Truman L. Kelley.

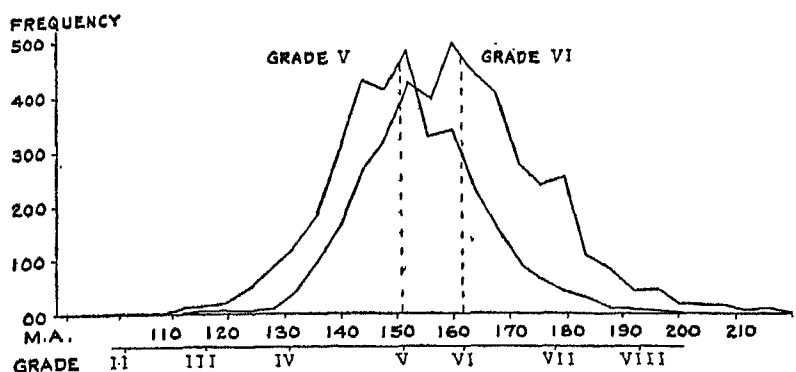


FIGURE III Mental Age Distributions in Grades V and VI, with Grade Means (Kuhlman-Anderson Intelligence Test)

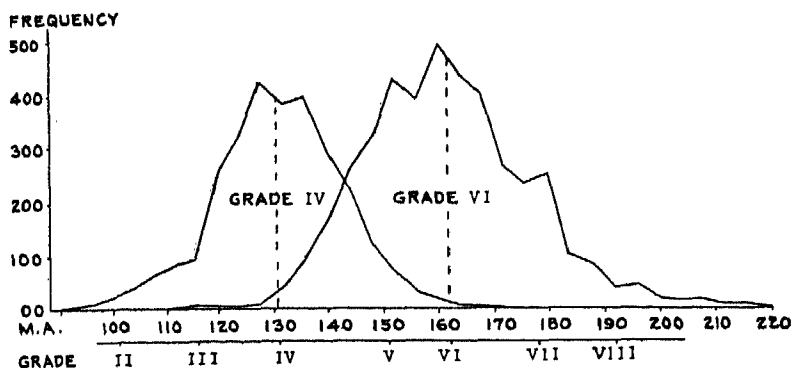


FIGURE IV Mental Age Distributions in Grades IV and VI, with Grade Means (Kuhlman-Anderson Intelligence Test)

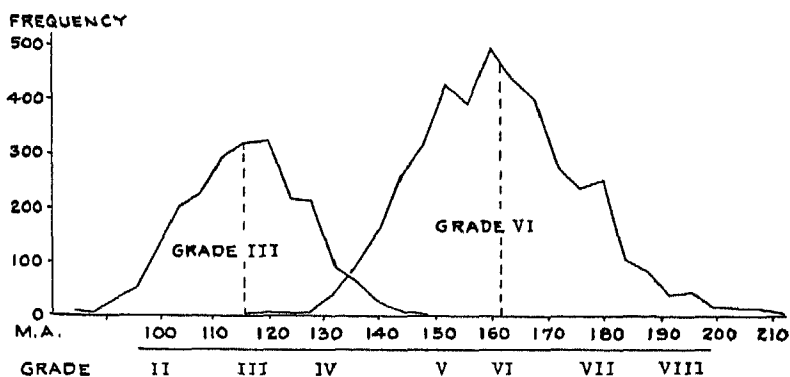


FIGURE V Mental Age Distributions in Grades III and VI with Grade Means (Kuhlman-Anderson Test)

and VI, and II and VI. These distributions are shown in Figures III to VI inclusive. The mean mental age of each grade level is also shown. The basic mental age statistics are given by grade in Table 1. The method of calculation is illustrated in Table 2.

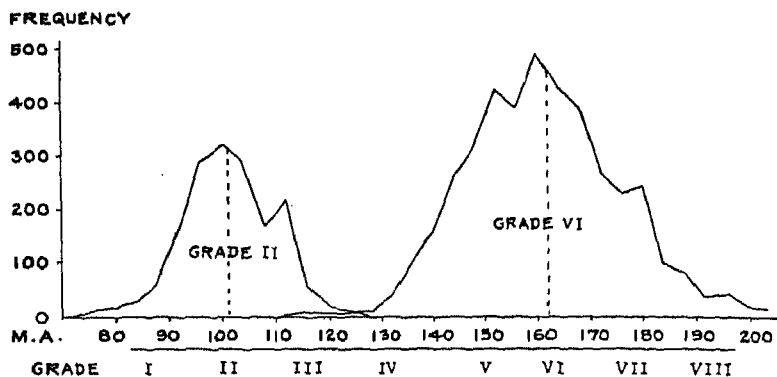


FIGURE VI Mental Age Distributions in Grades II and VI, with Grade Means (Kuhlmann-Anderson Test)

TABLE 1
Mental Age Statistics in Months, by Grade, Using the Kuhlmann-Anderson Intelligence Test. From Frequency Distribution in Bulletin No. 42 (1945), Educational Records Bureau, New York

Grade	Cases	Mean	Std. Dev.
1	1458	85.8	*6.7
2	1680	101.4	8.15
3	2209	115.8	10.8
4	2886	131.0	11.8
5	3332	150.9	12.8
6	4153	161.8	15.2
7	4204	178.1	*17.0
8	4700	192.6	*23.7
Total.....	24,622	—	—

* Unused. Estimated from the semi-interquartile range.

The four scales are presented in tabular form in Table 3 and in graphic form in Figure VII.

The 100-point scale applied to mental ages takes the form of an ogive curve. It applies automatically to the doubtful range only. Beyond this area correct classification becomes practical certainty. The interval between scale units is greatest in the central area of greatest doubt and least in the extreme

TABLE 2

Work Sheet for Deriving the Scale Values of Mental Age from Two Overlapping Groups, Fifth and Sixth Grade Pupils. Derived from data in Table 1

MA (X in mos)	Upper group		Lower group		Scale values (P)†
	$\frac{X - M}{\sigma}$	Probability*	$\frac{X - M}{\sigma}$	Probability*	
1	2	3	4	5	6
115	-3.08	.001	-2.80	.997	0.1
120	-2.75	.003	-2.41	.992	0.3
125	-2.42	.008	-2.02	.978	0.8
130	-2.09	.018	-1.63	.948	1.9
131	-1.83	.034	-1.24	.893	3.7
140	-1.43	.071	-.85	.802	8.1
145	-1.10	.136	-.46	.677	16.7
150	-.78	.218	-.07	.528	29.2
155	-.447	.326	.32	.374	46.6
160	-.117	.453	.71	.239	65.4
165	.210	.583	1.10	.135	81.2
170	.539	.705	1.49	.068	91.2
175	.869	.808	1.88	.030	96.3
180	1.20	.885	2.27	.012	98.6
185	1.53	.937	2.66	.004	99.7
190	1.85	.968	3.05	.001	99.9

* Proportion of cases in the tail of the distribution beyond X, from a normal probability integral table.

† Obtained from q-values in columns 3 and 5 by the formula $P = \frac{100 q_u}{q_u + q_l}$

TABLE 3

Scale Values for Mental Age, Determined from Various Spaced Pairs of Overlapping Groups

Mental age (months)	Scale Values			MA (months)	Scale Values
	(A) Grades V & VI	(B) Grades IV & VI	(C) Grades III & VI		(D) Grades II & VI
115	.1	.1	.2	108	.1
120	.3	.4	.9	110	.2
125	.8	1.1	3.9	112	.5
130	1.9	3.3	15.9	114	1.3
135	3.7	8.5	47.2	116	2.6
140	8.1	24.1	85.6	118	8.7
145	16.7	53.7	97.8	120	20.7
150	29.2	80.2	99.5	122	40.0
155	45.6	94.0		124	66.7
160	65.4	98.5		126	90.0
165	81.2	99.6		128	96.3
170	91.2	99.9		130	99.0
175	96.3			132	99.5
180	98.6			134	99.9
185	99.6				
190	99.9				

areas of greatest certainty. As overlapping decreases and approaches zero the S -curve tends to become a straight, perpendicular line passing through a point that separates the two groups with absolute certainty.

Practicability

These characteristics seem to make the proposed scale admirably suited to tests used for classifying personnel into pre-

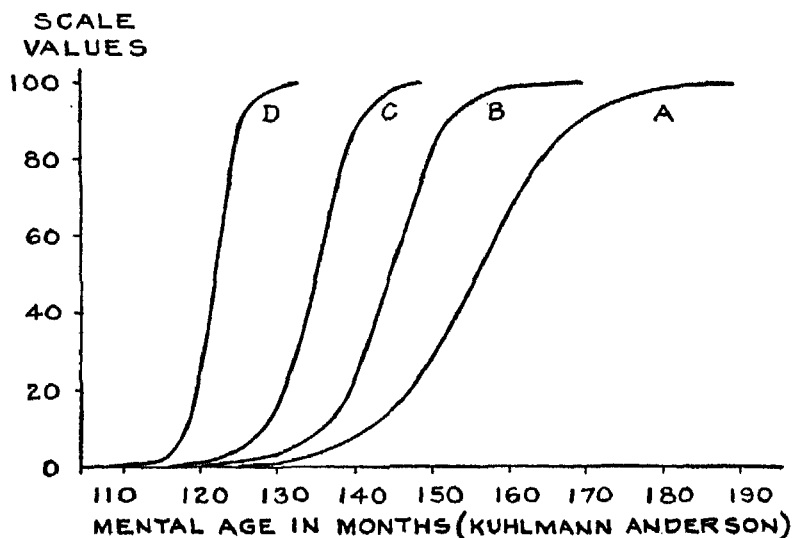


FIGURE VII Quality Scales from Four Pairs of Criterion Groups with Different Amounts of Overlap

determined categories. Its practicability was verified by constructing a new test, calibrating it in this manner, and applying it to an adult population. This has been previously described.⁴

Briefly, the test was a *Biographical Case History* consisting of 67 multiple-response, single-choice items. The two criterion groups consisted of 1050 normal operative soldiers and 1177 general army prisoners. The two overlapping frequency distributions are shown in Figure VIII. The mean raw score for the normal group was 47.6, and for the imprisoned group, 30.2. The standard deviations were 6.8 and 9.3, respectively. From

⁴ Betts, Gilbert L. "The Detection of Incipient Army Criminals." *Science*, CVI (1947), 93-96.

these data and in the manner illustrated in Table 2, the scale values shown graphically in Figure IX were derived.

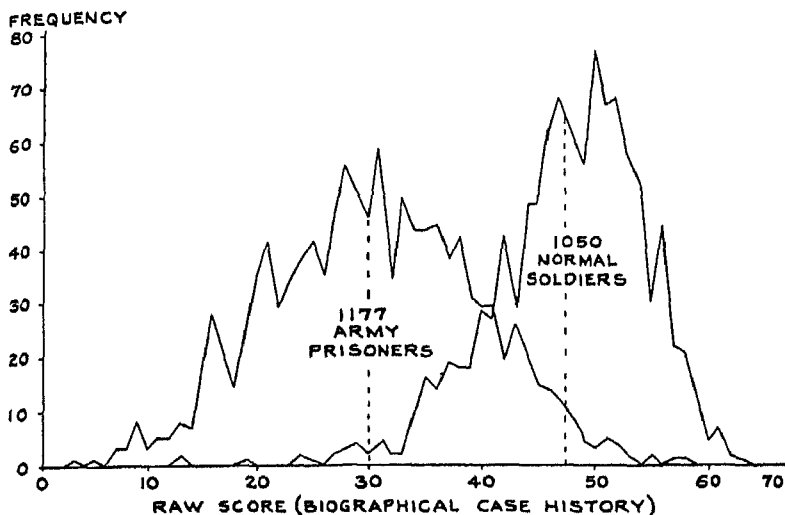


FIGURE VIII Distribution of Raw Scores on a New Test in a Pair of Adult Criterion Groups

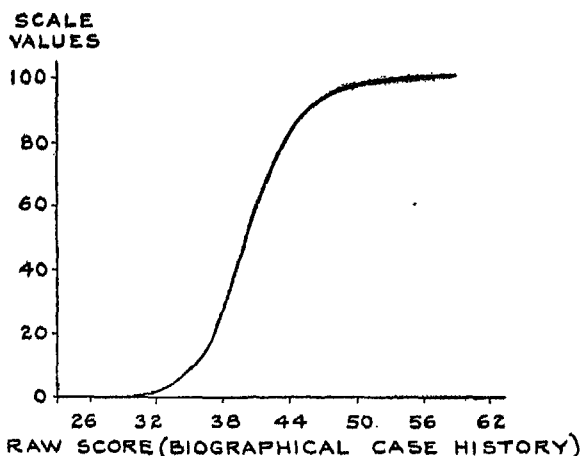


FIGURE IX Quality Scale from a Pair of Adult Criterion Groups on a New Test

During a subsequent 18-month period, *The Biographical Case History* was administered at the induction station level in the Seventh Service Command to about 4,634 selectees with crim-

inal records. The critical score varied from time to time and from station to station in accord with the amount of risk considered advisable under current circumstances. In this very practical situation the scale was found to be exceedingly useful. Classification difficulties were less acute than those met through the use of mental ability scales calibrated in the conventional manner. Because transmuted scores were based on criterion differences, validity was always in the open and classification could be defended easily.

Other Possible Applications

It seems highly probable that the same form of test calibration will be equally useful in other situations. Suppose, for example, an employer desires to increase the number of employees in a certain job or job family. His psychologist can follow a procedure somewhat as follows. First the employer would identify two criterion groups; for example, one satisfactory and the other not. Next, the psychologist would select a test that discriminates significantly between these two groups. Using the means and standard deviations from the two distributions, he can easily calibrate the test in the manner here described.

Having the test thus calibrated, he needs only one item of information from the employer: How far and in which direction from the 50-50 cutting point (P_{50}) does he wish to go? Knowing this, the psychologist can select personnel of a quality no less than the employer desires. In stringent times, when profits are low and personnel plentiful, the employer may desire to take practically no risk in the matter of personnel. At other times when manpower is scarce and profits high, more risk is warranted.

Summary

The need for having tests calibrated on a quality scale arises from difficulties encountered in the classification of borderline personnel into predetermined categories. The proposed scale was studied experimentally from a succession of differently spaced criterion groups. As thus studied, its characteristics in-

licated that it was admirably suited for the purpose contemplated.

The practicability of the scale was verified through actual use. A new test, called the *Biographical Case History*, was constructed, calibrated by reference to two contrasting criterion groups, and used successfully for measurement and classification purposes. The nature of further applications that may be made was illustrated.

A GENERAL APTITUDE TEST BATTERY STUDY WITH HIGH-SCHOOL SENIORS

STATE TESTING STAFF
Ohio State Employment Service

DURING the 1947-48 school year, the United States Employment Service's *General Aptitude Test Battery* (GATB) was administered to a group of 439 high-school seniors as part of an experimental cooperative program for counseling and testing high-school youth by the Ohio State Employment Service and the Ohio State Department of Education.

The primary purpose of this study was to investigate the distributions of aptitudes and of occupational aptitude patterns in a high-school senior group. Such a study would give information regarding the use of the GATB with respect to its use in guidance and placement on the secondary-school level.

Five northern Ohio schools participated in the program. Two of the schools were in semi-rural communities and three were in communities suburban to large industrial centers. School guidance personnel and employment service counselors were trained by the Ohio State Employment Service staff in the use and interpretation of the test battery. The test scores were used by school and employment service counselors to assist in individual counseling of members of the senior classes.

Tests in the General Aptitude Test Battery

The Battery consists of fifteen tests found by factor analysis to measure ten aptitudes which appear to contribute to occupational success in many jobs (3). Eleven of the fifteen tests are paper-and-pencil, and four are apparatus tests. Each of the tests has been designated by a letter, as Part A, Part B, and so on, up to Part P.

Aptitudes Measured

These fifteen tests or parts are purported to measure ten aptitudes, as follows: (The letter preceding each aptitude indicates

the letter used to identify the aptitude.) G—intelligence, V—verbal ability, N—numerical ability, S—spatial aptitude, P—form perception, Q—clerical perception, A—aiming or eye-hand coordination, T—motor speed, F—finger dexterity, and M—manual dexterity.

Occupational Aptitude Patterns

The term "Occupational Aptitude Pattern" refers to the combination or pattern of aptitudes that is required to perform satisfactorily the major tasks of a given occupation. To date, norms have been developed for twenty fields of work representing approximately 2,000 occupations (1). The Occupational Aptitude Patterns have been related to the Part IV classification code structure of the *Dictionary of Occupational Titles*. The patterns were established after job analyses and analyses of test scores of samples of successfully employed workers in each field showed that certain occupations seemed to require a similar minimum amount of the same combination of aptitudes. Each pattern consists of minimum scores for only the most significant aptitudes required for the group of occupations covered by the pattern.

The minimum aptitude scores are expressed in terms of standard scores with 100 as the general population average with a standard deviation of 20.

The following are illustrations of typical Occupational Aptitude Patterns. Pattern 1 is G V—intelligence and verbal aptitude; occupations requiring considerable degrees of these aptitudes include creative writing, translating, copy writing and journalism. Pattern 2 is G N—intelligence and numerical aptitude; occupations such as accountant, auditor, statistician, and assessor apparently call for more of these two aptitudes. Pattern 3 is G N S P—intelligence, numerical aptitude, spatial aptitude and form perception; this pattern covers jobs in the fields of structural, mechanical and electrical engineering.

Five Occupational Aptitude Patterns are designed mainly around clerical occupations. They are:

5. GNQ—Computing and General Recording Work
8. VQTF—Typing, Stenographic Work, Typesetting and Hand Composing

11. NQ—Equipment and Material Checking and Routine Recording Work

12. NQTF—Computing and General Recording Work

19. QT—Classifying and Routine Clerical Work

The eight patterns mentioned above are the only ones discussed specifically in this study.

Statistical Analysis¹

The Test Record Card is a form containing the raw test scores, standard aptitude scores, and the Occupational Aptitude

TABLE 1
G Aptitude

	From Grouped Data	Sheppard's Correction
Males, School 1—N = 17.....	SD = 14	SD = 13.7
Females, School 1—N = 15.....	SD = 12.8	SD = 12.4
Males, School 2—N = 81.....	SD = 16.4	SD = 16.2
Females, School 2—N = 96.....	SD = 14.8	SD = 14.5
Males & Females, School 1—N = 32.....	SD = 14.4	SD = 14.1

Patterns for which each senior qualifies. All cards of the 439 seniors were numerically coded with the following items: individual identification, sex, school, high-school course, and age. This information, plus the individual's ten standard aptitude scores and the Occupational Aptitude Patterns qualified for, were punched on IBM cards.

The means and standard deviations were computed and rounded to the nearest whole number. It was thought that the calculation of variability measures, such as the standard deviation, from data coded into a few class intervals might involve appreciable grouping error. Standard deviations with Sheppard's correction (2) were calculated on several aptitude distributions.

The differences shown in Table 1 in standard deviations, computed from grouped data and corrected by Sheppard's correction, varied from .2 to .4. The differences between the standard deviations with and without Sheppard's correction were

¹ William M. Smylie was responsible for planning the details of the statistical procedures and analyses; and acknowledgement is made to Mr. Harris Weidner, Head of the IBM Unit, Research and Statistics Section, Ohio State Employment Service, for his help and cooperation.

similar for all of the other aptitudes (differences of .2 to .3 predominantly). Since the standard deviations were being rounded to the nearest whole number, it was thought that Sheppard's correction does not appear to make any real difference. The standard deviations of the aptitude scores were computed so that they could be compared with the standardized

TABLE 2
Means and Standard Deviations of Aptitude Scores for the Five Schools

	G		V		N		S		P	
	M	S.D.	M	S.D.	M	S.D.	M	S.D.	M	S.D.
School 1, N = 32.....	109	14	100	27	112	15	109	16	114	22
School 2, N = 177.....	119	17	111	15	118	17	116	19	120	16
School 3, N = 50.....	109	13	105	13	107	13	117	16	118	17
School 4, N = 67.....	112	15	102	15	114	15	114	18	116	14
School 5, N = 113.....	111	16	101	16	107	17	117	18	115	14
All schools, N = 439.....	114	16	106	16	113	17	116	18	117	16
	Q		A		T		F		M	
	M	S.D.	M	S.D.	M	S.D.	M	S.D.	M	S.D.
School 1, N = 32.....	107	15	102	16	101	18	101	16	100	15
School 2, N = 177.....	112	15	116	15	109	16	109	16	114	18
School 3, N = 50.....	108	17	119	16	116	15	115	19	121	18
School 4, N = 67.....	106	16	107	15	104	15	106	16	113	19
School 5, N = 113.....	102	16	107	13	101	16	103	17	112	18
All schools, N = 439.....	107	16	111	16	107	16	107	17	113	17
								M	S.D.	
All-school-all-aptitude.....								110	16	

standard deviations in the original standardization of the battery.

The means and standard deviations for each school, males and females combined, are shown in Table 2. Sex differences in these aptitudes for these schools were only slight and not significant as far as this study is concerned.

The all-school all-aptitude mean is 110 and the all-school all-aptitude standard deviation is 16. The mean is one-half a standard deviation higher than the mean of the population upon which this battery was standardized. This appears to be a reasonable result of the academic background of the group. The mean education of the working population used in the original standardization was eleven years. The education of the popula-

tion of this high-school group is, of course, held constant at 12 years. The standard deviation of 16 for the high-school group is also to be expected since high-school seniors would be a more homogeneous group than the working population whose education ranged from six years through college graduation.

Means and Standard Deviations

The mean aptitude scores of each school are compared with the all-school all-aptitude mean to see how much the aptitude means of this selected group vary among themselves. Considering the number of cases in each of the high schools, there is surprisingly little variability in mean aptitude scores or in standard deviations among the schools. The two most obvious deviations are both for School 1 ($N = 32$). For this school Factor V shows a SD of 27, and Factor P a SD of 22. This is quite

TABLE 3
Distribution of S.D.'s for the 10 Aptitudes in 5 Schools

S.D.....	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13
Distribution.....	1					1			3	6	6	14	12	3	4

interesting considering the fact that high schools in different types of communities were included in this group. School No. 1's average mean aptitude was 106 with two aptitude means as low as 100. School No. 2's average mean aptitude was 114 with one mean as high as 120. All other schools average mean aptitudes were in between the average mean aptitudes of Schools No. 1 and 2. However, School No. 3 has one mean aptitude as high as 121.

Table 3 shows the distribution of the standard deviations of all of the ten aptitudes of all schools:

Except for the two highest sigmas, they all cluster rather closely about the mean sigma (16).

Means and Standard Deviations by Age Groups

The ages of the 439 students were coded into 13 class intervals of 3 months each. The 439 students were then divided into three groups based on the mean and standard deviation of the

three-months' age groups and the mean age for each group was computed. There is two years of difference between Group I and Group III. Table 4 shows the mean aptitude test scores for the ten aptitudes for these three groups.

The average difference between Groups I and II is .4 S.D.'s. The average difference between Groups III and II is .3 S.D.'s. With two exceptions (S and M), the mean aptitudes of Group I (18 yrs. 11 mos.) are below those of Group II. With one exception (S), the mean aptitudes of Group III are above those of

TABLE 4
Mean Aptitude Test Scores for the Ten Aptitudes by Age Groups

Group	G	V	N	S	P	Q	A	T	F	M
Group I, 18 yrs. 11 mos., N = 42.....	105	94	103	117	113	99	104	100	106	113
Group II, 17 yrs. 9 mos., N = 364.....	114	106	113	116	117	108	112	107	107	113
Group III, 16 yrs. 11 mos., N = 33.....	123	117	119	116	122	113	118	113	110	116

Group I = +1 sigma and above mean	Males	N = 31
Group I Average Age 18 years, 11 months	Females	N = 11
	Total	N = 42
Group II = +1 sigma to -1 sigma about mean	Males	N = 162
Group II Average Age 17 years, 9 months	Females	N = 202
	Total	N = 364
Group III = -1 sigma and below mean	Males	N = 15
Group III Average Age 16 years, 11 months	Females	N = 18
	Total	N = 33

TABLE 5
Differences (in S.D. units) between Groups I and III

	G	V	N	S	P	Q	A	T	F	M
	(S.D. = 16)									
Differences between Group I (18 yrs. 11 mos.) and Group III (16 yrs. 11 mos.)	1.1	1.4	1.	.1	.6	.9	.9	.8	.3	.2

Group II. The oldest group seems to be consistently below the mean on practically all of the aptitudes. This group may have enough students who spent more than the usual number of years in school, that is, those who are slightly retarded, to have a tendency to lower the mean aptitudes of this group. Group III (16 yrs. 11 mos.) may have enough of the younger seniors who have been bright enough to be allowed to skip grades or partial grades, to raise the mean aptitude scores somewhat.

Table 5 shows the differences in standard deviation units between the oldest group (I) and the youngest group (III).

The greatest differences are in the G, V, and N aptitudes which are the aptitudes more generally related to academic work. If the two extreme age groups are groups that have the widest difference in speed of learning, as has been suggested above, G, V, and N should have the larger differences. It is interesting to note that the S aptitude (Spatial), one test of which is also contained in G, has the lowest difference.

Mean Aptitudes by Sex

The mean aptitudes for all schools by sex were computed. These are shown in Table 6.

TABLE 6
Mean Aptitude Scores for Males and Females

	G	V	N	S	P	Q	A	T	F	M
N = 209 Male.....	118	105	115	121	115	102	109	104	105	116
N = 231 Female.....	111	106	111	111	119	112	113	109	109	111
Difference.....	7	-1	4	10	-4	-10	-4	-5	-4	5

TABLE 7
Mean Aptitude Scores According to School Course

School Course		G	V	N	S	P	Q	A	T	F	M
Commercial.....	N = 82	106	100	110	109	119	114	112	109	107	112
Industrial Arts & Technical...	N = 44	109	94	108	118	113	94	100	93	101	113
Academic.....	N = 153	125	115	120	122	120	111	115	110	107	116
General.....	N = 148	111	103	109	114	116	104	112	107	109	112
Vocational Agriculture.....	N = 4	108	101	113	91	99	93	92	81	86	91
Home Economics.....	N = 8	94	98	102	97	111	107	97	103	104	101

From Table 6 it appears that there may be some sex differences in aptitudes S and Q in this group. Perhaps high-school senior boys are a little better in S (Spatial Aptitude) than high-school senior girls. Also, perhaps senior girls are a little better in Q (Clerical Aptitude) than senior boys. Further data are needed to clarify this issue.

Mean Aptitudes by School Course

The mean aptitude scores according to school course for all schools are shown in Table 7.

Senior students in commercial courses have Q (Clerical Perception) as their second highest mean aptitude. P (Form Perception) is their highest mean aptitude. Senior students in

industrial arts and technical courses have S (Spatial Aptitude) as their highest mean aptitude. Seniors in academic courses have the highest G (intelligence) mean aptitude. Their N, S, and P mean aptitudes are 120 or slightly over. Their V (Verbal) mean aptitude is higher than the V aptitude of the seniors in the other courses. The above general findings are consistent with findings of other investigations.

Occupational Aptitude Patterns by Course

Table 8 shows the per cents of students in the Commercial, Academic, General, and Industrial Arts and Technical courses who had aptitude scores which gave them OAP's (Occupational Aptitude Patterns) in the Clerical groups (Patterns 5, 8, 11, 12, and 19), and in the "College OAP's" (Patterns 1, 2, and 3).

TABLE 8
Per Cents of Students According to Course Who Had Certain OAP's

	Clerical OAP's 5, 8, 11, 12, 19	OAP's 1, 2, 3	Average Number of OAP's per Student	Number of Students Receiving No OAP's
Commercial Course.....N = 82	29%	.4%	10	0
Academic.....N = 153	26%	4.7%	12	1
General.....N = 148	21%	.7%	9	0
Industrial Arts & Technical....N = 43	12%	.7%	6	4

The commercial course seniors qualified for the highest percentage of clerical OAP's. The academic course seniors qualified for the highest percentage of OAP's 1, 2, and 3. (It must be noted here that the GATB covers only a few of the college counseling areas.) The academic or college preparatory course seniors have the highest average number of OAP's qualified for, and also stand second in percentage of clerical OAP's qualified for.

Summary

This study was concerned with the general significance and considerations of the use of the GATB in a high-school counseling program. It was thought that the GATB mean aptitude scores, standard deviations, and Occupational Aptitude Patterns were consistent with the "normal" expectation for this

group of high-school seniors. The battery appears to be quite applicable for use with this type of population.

Further research is needed to determine how well the test results have aided in the vocational adjustment of these high-school youth. An effort will be made to carry out this type of study.

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INTELLIGENCE TEST SCORES AS INDICATIVE OF ABILITY TO LEARN

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Introduction

IF one starts with the assumption that the most dependable measure of learning is secured by subtracting a measure of status before from one after the period of practice, study or instruction, he finds himself in an arresting situation with regard to the definition of intelligence as the ability to learn. This is so because measured changes in score tend to be negligibly correlated with intelligence-test scores (2). What then shall we say about the validity of the use of intelligence-test scores in schools, and elsewhere, as indices of the ability to learn? Must we conclude from this reported negligible correlation, in spite of a long period of use for that purpose, that intelligence-test scores are not indicative of the ability to learn? The position taken in this paper is not a categorical yes or no. The paper is not a full consideration of the topic. The emphasis in the paper is that the measures of learning which have provided the low correlation are not an adequate basis upon which to claim invalidation.

Definition of an Adequate Criterion

What are the qualifications for measures of gain, if they are to constitute a criterion for the validation of intelligence-test scores as indices of the ability to learn?

First, the reliability of the measures of gain must be known, and should be as high as that for end-scores. This seems like a trite observation, but it seems to be needed. The tendency is to be satisfied with having used end-tests of acceptable reliability, and to let it go at that. To use reliable end-test scores is good, so far as it goes, but it is not enough. Even with the coefficient of reliability for the end-tests as high as .95, the reliability of the differences may be zero. The end-tests contribute only unre-

liability to the measures of differences. All you can say for reliable end-tests, is that the more reliable the end-tests, the less handicap there is to be overcome in the measurement of gains. How reliable the differences are depends chiefly upon what happens to change the pupils between testings. In other words, since reliability is the ratio of true variance to obtained variance, the reliability of gains is a positive function of the differentiation, which learning introduces, and a negative function of error in measurement.

The trouble in practice is that we do not wait for learning to introduce enough differentiation. We think we are doing well if we allow a whole school year to elapse between the initial and final tests. But even after a year, reliabilities of gains, for instance, on the parts of achievement-test batteries, are still low. Whatever the reliability is, it needs to be measured and reported. Without such information most measures of gain may be assumed to be very unreliable, and to show very low correlations with intelligence-test scores, or with any other independent measure, merely because of that unreliability.¹

But for the measures of gain to be sufficiently reliable, or at least of known reliability, is not enough. A second requirement must be set up. If the measures of learning are to be used as a criterion, against which intelligence-test or other scores are to be validated, as measures of the ability to learn, something must be required of the learning situation. It must provide an opportunity for each to learn according to his ability.

Data with regard to spelling, reported by Carroll (1), illustrate a situation in which such an opportunity does not exist. At the beginning of the year pupils were tested as to their ability to spell the words to be taught during the year. Had they been tested again at the end of the year, the brighter pupils could not have made the larger gains, assuming 100 per cent mastery, because they knew 81 per cent of the words at the beginning of the year whereas the duller pupils could spell only 40 per cent of them. The bright could gain only from 81 to 100 from the situation, while the dull could gain from 40 to 100.

¹ Those not familiar with the substantial correlation which may be obtained between initial or final test and gain (5) merely because of the correlation of errors are probably led erroneously to infer reliability from such correlations.

Gains obtained under such circumstances, where there are clear limitations of opportunity, are obviously not suitable as criteria of the ability to learn. It is quite possible that such limits are often present in the school situation; limited offering, because of the tendency to organize content into years and semesters, limited instructional help because of the pressure upon teachers to get about 95 per cent of the class above the required standard. At any rate, not all measures of gain are suitable to serve as criteria, even if satisfactory so far as reliability is concerned. Intelligence-test or other scores may not be invalidated as indices of the ability to learn in situations in which the possibility of validation is curtailed.

In the third place, and finally, the possibility of validation must be uncurtailed not only in the teaching or learning situation, but also in the testing situation. It is not enough that each has the opportunity to learn according to his ability, he must also have an opportunity for the full amount of that learning to be reflected in the measure of gain.

Here again, as in the case of reliability, the tendency is to err by assuming that if it is a good test it will give good measures of gain. But if the test is a good initial test (ranging in difficulty from 0 to 100 through a central tendency of 50 per cent) it will not be a good final test and will yield poor measures of learning. If a good distribution of measures of learning is to be obtained, it will not come from a good initial test but only from a good test for measures of learning. It can be secured only after the use and repetition of a wastefully long test. It will be made, presumably, of items ranging from 0 to 100 through 50 per cent difficulty. Only in this case, the difficulty to be examined is not beginning difficulty nor end difficulty, but difficulty in learning. Item analysis for this purpose will not be based upon the per cent answering correctly, but upon the per cent learning to answer correctly. Such an examination of the measures of gain would not alone provide sufficient assurance of the adequacy of the measures, but it would reveal some of the grosser inadequacies.

These, then, are the qualifications for an adequate criterion against which intelligence or other scores may be compared, as indices of the ability to learn. For the measures of gain which have provided the published low correlations, the reliability

has not been determined, it is not known to what extent the opportunity to learn was curtailed, and, if the opportunity to learn was adequate, it is not known whether the tests permitted good measures of the learning. If the validity of status scores, as indices of the ability to learn, is to be checked, data are needed, and they need to be chosen specifically for that purpose.

Two Attempts to Secure an Adequate Criterion

There were, in the writer's files, two sets of data which it was thought might yield satisfactory criterion-measures of learning.² Both were in the social studies area, one at the seventh-grade level and one at the twelfth. The data to be reported here for the seventh grade are for a sample. The sample is composed of all cases with a full set of scores from 6 of the 9 control sections in an experiment. For the whole grade in the single junior high school, ($N = 515$), the mean Otis Group IQ was 100.0, the sigma was 22.2. For the sample ($N = 134$), the mean and sigma were 102.9 and 23.1. The sample is therefore fairly representative of the whole seventh grade. The data to be reported for the twelfth grade are for the full twelfth grade in one high school, $N = 156$.

The tests in the seventh grade were made for four³ experimental units of instruction. They were composed of 300 items, and covered eleven weeks of instruction. The twelfth-grade test was the *Columbia Research Bureau American History Test*, composed of 200 items. The period covered was one school year.

In each case most of the items were discarded. What was wanted, as stated above, was to be sure of differentiation as to learning with the least curtailment of opportunity. The choices were arbitrary. First, it was assumed that when fewer students answered an item correctly at the end of the period than at the beginning, the loss was a chance difference. Then all items were discarded unless the gain was larger than the largest loss. Second, it was assumed that if the abler students were being penalized in the full test, it was by the presence of items answered correctly at the beginning by a majority of the students.

² The seventh-grade data have been described by D. C. Knowlton and J. W. Tilton (3). For the twelfth-grade data, the writer is indebted to Clarence H. Elliott.

³ Units 1, 3, 4, and 5. Unit 2 was discarded for the present purpose because of the relatively small gains made (3) Table 4, p. 42.

Arbitrarily, for the seventh grade, items were discarded which initially were answered correctly by more than 45 per cent. For the twelfth grade, for which a greater caution seemed advisable, all items were discarded if answered correctly by more than 25 per cent at the beginning of the year.

There remained for criterion tests of learning, 54 items for the seventh-grade sample, and 20 items for the twelfth grade. The 54 items ranged in learning difficulty from 7 to 83 per cent, averaging 34 per cent. The 20 items ranged from 18 to 58 per cent, with an average of 38 per cent. The reliability coefficients are .93 and .73.

The Use of Criterion Scores

How well should intelligence-test scores agree with criterion measures of learning? What "passing mark" may be set, above which validity may be said to have been established? It is easy enough to agree that if the correlation is zero, validity has not been established. But is it reasonable to require the correlation to approach unity? There are two reasons why that would be unreasonable. One is that the factors of interest and application are unaccounted for. The other is specialization of ability. It has not been assumed that intelligence-test scores are equally indicative of learning in all areas. A reasonable requirement is that the agreement between index and criterion should approximate that between the index and initial status in the area of the criterion learning.

This requirement is met in the seventh-grade sample and in the twelfth grade. The correlations for the seventh-grade Otis IQ are with initial .50 and with the learning criterion .49. For the twelfth-grade Terman Group IQ's, the correlations are with initial .43 and with the learning criterion .49.⁴

Discussion

As it turned out, in these two cases the construction of criterion measures with selected items was in a sense a wasted effort. The correlations of IQ with gains using all items were

⁴ Correction for attenuation does not alter the picture much. In this correction the reliability of the Otis IQ was estimated, the other reliabilities were computed. The four corrected correlations in the order mentioned above are: .58, .53, .56, and .58.

not reliably less than with the criterion measures. In other words, the gains on all items were proved to be good criterion measures, as they were—fairly reliable (.72 and .68), and obtained in a situation in which there was plenty of opportunity both to learn and to be measured. The criterion measures gave evidence of superiority only with respect to reliability, .93 for 54 items as compared with .72 for all 300 items, and .73 for 20 items, as compared with .68 for all of the 200 items.

Conclusion

It may be said that within the two sets of data described, intelligence-test scores predicted learning fairly well. But this paper has been presented, not so much for the weight of the evidence presented, as to serve as a stimulus to similar reports, a plea for better data than are available. In hundreds of experiments, intelligence-test scores have been used in equating groups. The correlation between these scores and gains should be reported, with measures (or good estimates) of the extent to which the gains are suitable criteria. If intelligence-test scores are to be discredited as indices of the ability to learn, it must be done with more concern for defensible criteria than has been given to the problem.

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A STUDY OF THE USE OF CERTAIN TECHNIQUES FOR REDUCING RESISTANCE DURING THE COUNSELING INTERVIEW

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RAPPORT between the counselor and client is important for the success of the counseling interview. One might well ask: What can a counselor do to help to establish and to maintain rapport? What can he do to reduce client resistance if it occurs? We know that the general manner of the counselor and the client's insight and motivation are important. We know also that counselors use many specific devices, e.g., smiling, illustrations, etc., to help in putting their points across. This study, while not furnishing complete answers to these questions, represents a start in an analysis of specific techniques used by counselors in preventing or overcoming resistance.

Before 1940 most of the writings on rapport in the counseling interview were of a theoretical nature or represented summaries of experience in counseling, but few were based on experimental study. Since 1940 there have been a few experimental and statistical studies of the counseling interview, among which are the studies made by Porter (4), Snyder (6), Sherman (5), Tindall and Robinson (7), Allen (1) Carnes (2), and Daulton (3). None of these studies has been directly concerned with discovering specific techniques that a counselor may use to establish and maintain rapport. It is in this direction that the present study points.

Source of Materials

The materials for this study consisted of typescripts of recorded counseling interviews, made at the Ohio State Uni-

versity. The interviews were between students enrolled in a course on "Study Skills and Effective Adjustment" and their counselors, some of whom were advanced students of psychology, while others were members of the Department of Psychology who had had considerable counseling experience with students. The recordings of the counseling interviews were made with the full knowledge and consent of both persons concerned. These clients represent the normal, not-too-disturbed young adult seeking help on problems of study skills, vocational planning and of a personal nature.¹ Their problems of resistance represent normal reticence in discussing their problems and hesitancy in wanting to change their ways; problems of resistance from unconscious repression and transference were not present to any great extent.

Judging Rapport

The necessary first step in this study was to determine a method of judging the degree of rapport in an interview from the typescript of that interview. Since rapport is likely to be dynamic, changing quite suddenly at some times and gradually at other times, the measurement of rapport is a difficult problem. Because the dynamics of rapport are frequently more apparent in groups of responses than in single response, it seemed feasible to use a unit longer than a single response for the rapport ratings; and because the degree of rapport may change several times within a counseling interview, it was decided to use as units something between the single response and the entire counseling interview.

Sherman's (5) system of division into units according to topic of conversation was adopted for this purpose. A new unit starts and ends when the topic of conversation changes. The 68 available interviews by 22 counselors were divided into units on the basis of four topics: study-skill problems; scholastic, non-skill problems; vocational problems; and therapy.

After the interview units had been thus determined, the next step involved rating the rapport in each discussion-topic

¹ A more complete account of the remedial study-skills program and the counselor training program may be obtained from the following article: Francis P. Robinson, "Two Quarries With A Single Stone," *Journal of Higher Education*, XVI (1945), 201-206.

unit on a scale of 1 to 5, the definitions of which are given below:

1. Counselee definitely resistive—rejects counselor point of view or manner of structuring interview in a somewhat belligerent manner, refuses to talk about a real problem or attempts to close interview.
2. Counselee somewhat resistive—rejects counselor point of view or suggestion but in a polite manner, does not talk freely, or may show a tendency to contradict counselor.
3. Counselee apathetic—takes no initiative but accepts counselor suggestions, usually in a non-committal fashion.
4. Counselor and counselee work together fairly well—talk together rather freely, although there may be some friendly parrying to advance points.
5. Counselor and counselee work together on a real problem—talk very freely, feeling of mutual respect is marked.

The units with ratings of 1, 2, and 3 were designated as having low rapport, and those with ratings of 4 and 5 as having high rapport.

Techniques of Leading

What influence do leading techniques used by the counselors have upon their choice of resistance-reducing techniques? That is, a counselor's remark may do no more than to indicate acceptance of what the client has said, or the counselor may suggest some points for tentative consideration, or he may urge that a new idea be accepted. We are interested in finding if these resistance-reducing techniques tend to be used more often when the counselor does most of the leading. Every counselor remark in a unit was classified as to its degree of leading and the technique used most frequently in the unit, i.e., the "primary technique," was determined. Units characterized by the following four primary techniques occurred frequently enough to be used in this study. These definitions are arranged in order of increasing amount of leading:

Clarification: The counselor states the feeling or problem of the counselee in such a way that it can be more clearly understood and used in the interview, but he does not interpret the counselee's feelings or problem, nor does he add information or any suggestion of his own.

Tentative Analysis: The counselor verbalizes his conception of the meaning of the response or series of responses of the

counselee but allows the counselee complete freedom concerning the acceptance or rejection of that interpretation. The counselor is not attempting to push the counselee toward a preconceived idea of insight, but is setting up ideas for the counselee to examine.

Interpretation: The counselor verbalizes his conception of the meaning of the response or series of responses of the counselee and attempts to push the counselee toward the counselor's idea of insight through the logic of the data. Frequently the counselor attempts to maneuver the counselee into a position where the counselor's advice becomes the only alternative.

Urging the Acceptance of Advice: The counselor gives advice to the counselee and urges his acceptance of it. Sometimes the counselor only suggests a course of action, but the "should" is very clearly implied and usually stated by the counselor. The counselor's values are involved here.

Selection of Units

After the available interview typescripts had been analyzed according to topic of conversation, degree of rapport, and leading techniques used, the next step was to select certain of the classified interview units for statistical analysis. The following numbers of units were desired: 1) 25 units with low rapport of each of the four topics; 2) 25 units with high rapport of each of the four topics; 3) 25 units with low rapport of each of the four leading techniques; 4) 25 units with high rapport of each of the four leading techniques. The same 100 units could satisfy specifications 1 and 3; another 100 units could satisfy specifications 2 and 4. The total number of units would be 200. It was also desired to obtain units representing a wide spread of counselors and counselees. Within the framework of these considerations, the interview units were chosen at random.

It was found, however, that the desired numbers of units were not available in every case; only 19 Therapy units with low rapport and 11 Vocational-Problem units with low rapport were available. In all, 180 interview units were used, representing more than twenty counselors and as many counselees.

Resistance-Reducing Techniques

The next part of this study consisted of analyzing a large number of counselor responses to find any special techniques

used by the counselors to reduce resistance or increase rapport. The interview units used for this analysis were not used again in the study proper. Thirteen counselor techniques were found that apparently had some effect upon rapport. Later analysis of the selected 180 units showed that this list covered the techniques used. These techniques will be called "resistance-reducing" or "secondary" techniques.

Sympathy: The counselor sympathizes with the counselee, i.e., says or implies that he feels sorry for the counselee.

Assurance: The counselor encourages the counselee by saying or implying that the counselee's problem will be solved. The counselor's purpose in using this technique is to ease the counselee's fears.

Approval: The counselor expresses approval of or agreement with something that the counselee has said or done. The approval is usually, though not necessarily, intended to encourage the counselee.

Humor: The counselor attempts to ease the tension in the mind of the counselee by saying or implying something intended to make the counselee laugh. However, the mere fact that the counselee laughs following a statement by the counselor does not necessarily indicate that humor was intended by the counselor. Nor does the fact that the counselee does not laugh necessarily indicate that the counselor did not intend humor.

Objective Materials Used: The counselor makes use of some objective materials during the interview, such as notebook, textbook, chart, diagram, etc.

Counselor Makes Personal Reference: The counselor tells about some of his own experiences to illustrate his point, or refers to himself in such a way as to insert his own personality into the interview by saying, "I think," "I would do this," etc.

Illustration or Anecdote (non-personal): The counselor cites an example of the experience of another person or a statement made by another person to illustrate his point. This classification includes "telling a story." This is a non-personal reference.

Question Form: The counselor makes a tentative statement of fact or opinion or interpretation of the counselee's previous statement or statements in the form of a question, giving opportunity for the counselee to agree or disagree with the counselor. Mere asking for information is not included in this category. The counselor's purpose in asking the question may be to cause the counselee to think further about his problem.

Counselee's Words Used as a Springboard: The counselor fol-

lows the counselee's lead, repeating the counselee's statement and using it as the beginning of a new topic for discussion.

Threat: The counselor says or implies to the counselee that unpleasant results for the counselee are likely to occur if the counselee follows or fails to follow a certain specified course of action.

Experimental Findings Cited: The counselor cites some experimental evidence to illustrate or prove a point.

Expression of Surprise: The counselor expresses surprise or astonishment at something that the counselee says or does.

Irony: The counselor makes a statement which is apparently intended to convey the opposite meaning. Usually, but not necessarily, the irony is used in a derogatory sense.

Reliability

The reliability of the system of classification by secondary techniques was determined in two ways:

1. Reclassification more than a month later
2. Classification by two independent judges, both advanced students of psychology

A rank-order coefficient of correlation of .95 was obtained between the first and second classifications. The rank-order coefficients with the judges ranged from .81 to .92.

Analysis of Data

After the interview units to be used in this study had been chosen, the first question that arose was:

1. Were certain secondary techniques used more frequently than others, or did they seem to occur in a random fashion?

To answer this question each counselor response in the 180 units was classified according to one of the thirteen secondary techniques or as "unclassifiable." It was found that certain of the techniques were used significantly more frequently than others, in the following order of occurrence: question form (764 times); personal reference (557 times); approval (167 times); assurance (148 times); non-personal illustration (105 times); humor (61 times). Each of the other techniques was used quite infrequently—ten times or less. Frequency of occurrence does not necessarily indicate the desirability of any technique, but merely what techniques the counselors in this study liked to use. Some counselors seemed to have favorite techniques.

Knowing that these secondary techniques apparently did not occur at random, and knowing that some occurred significantly more often than others, the writers wanted to make a start toward determining the effects of the secondary counseling techniques upon rapport. The question was asked: Did the frequencies of occurrence of each of the secondary techniques in units of high and low rapport differ significantly? The following techniques occurred significantly more frequently in *low* rapport units; the corresponding chi-squares and levels of significance are also given:

Assurance: chi-square equaled 4.7633, or 3 per cent level of significance

Personal reference: chi-square equaled 5.0554, or 3 per cent level of significance

Non-personal illustration: chi-square equaled 8.9285, or 1 per cent level of significance

The other techniques showed no significant differences in occurrence. At first thought it might be assumed that, because the use of resistance-reducing techniques should result in increased rapport, they should occur more frequently in the better discussion units. On the other hand, another factor is working here: a counselor is most apt to use these techniques when rapport is breaking down. The above results and discussion indicate that it is difficult to determine the relative effectiveness of resistance-reducing techniques by their comparative frequency of occurrence in units of good and bad rapport.

2. Does the topic of conversation in the interview units appear to have any effect upon the frequency of occurrence of each of the various secondary techniques? The techniques of assurance, humor, personal reference, and non-personal illustration were used most frequently in therapy units. The differences noted were significant at the 1 per cent level, except for assurance whose difference was significant at the 5 per cent level. Since therapy units are usually concerned with more personal problems than are other types of units, and are therefore more prone to arouse resistance, it appears that the counselors used more secondary techniques the more resistance they expected. It seems, then, that the topic of conversation

has some effect upon the frequency of occurrence of the various secondary techniques.

High and low rapport units for a particular topic did not show many unique differences. As for all of the units, units of low rapport within a topic tended to have greater use of these secondary techniques. The only exception was Approval which was associated with high rapport in Vocational-Problem units. This difference was significant at the 1 per cent level. This probably occurred because counselors tend to use approval when clients make vocational plans which are most apt to be made in the more successful interviews.

3. Do the techniques of leading used by the counselors seem to have any effect upon their choice of secondary techniques? Three of the secondary techniques, assurance, personal reference, and non-personal illustration, were used most often in conjunction with the most pronounced techniques of leading, i.e., interpretation and urging. These differences were significant at the 1 per cent level. All other differences were not significant. These findings indicate that counselors tend to use secondary techniques most frequently when they use techniques of leading that might cause resistance.

In addition to this statistical analysis, a small intensive study was made of twelve interviews units selected at random from the 180 units used in the study. The use of primary and secondary techniques and the dynamics of rapport in those units were carefully analyzed by a study of each individual counselor and counselee response. This analysis showed that the resistance-reducing techniques occurred most frequently at the time a strongly leading remark was made. It also seemed that the counselors used secondary techniques to help out when the rapport was at a low level, hence the more frequent occurrence of the secondary techniques in low rapport units. In addition, it seemed that the counselors used the secondary techniques frequently when they anticipated resistance from the counselee either because of the topic under discussion or because of the amount of leading.

Summary of Findings

1. Counselors vary in the frequencies of their use of devices for reducing client resistance. Question form, personal refer-

ence, approval, assurance, non-personal illustration, and humor were used most frequently in the order of their mention. The other techniques were used quite infrequently. Frequency of use, however, cannot be taken as a measure of relative effectiveness.

2. The counselors' use of secondary techniques varied significantly with topic of conversation. The greatest use of secondary techniques was in therapy units, which were concerned with more personal problems of the counselees than the other types.

3. The counselors' use of secondary techniques varied significantly with the leading technique used. Some light was thrown on this by an intensive study of a smaller sampling of units. Counselors tend to use secondary techniques more often when they use strongly leading techniques than when they use techniques not involving much leading.

4. While there were not many significant differences in the use of secondary techniques with units of high and low rapport of the various topics of conversation and techniques of leading, most of the significant differences were in favor of units of low rapport. Apparently the counselors used secondary techniques when they were most needed, but these secondary techniques were not effective enough in themselves to make the units end with above-average rapport.

In general, this study has shown what resistance-reducing techniques counselors use and when they use them, rather than what techniques are most effective. The high frequency of some techniques for certain counselors suggests that the pattern found may be due in large part to trial-and-error development of counseling method. More detailed studies of the interview will be needed before it will be known what techniques are most effective. It seems that the next step in this direction might be a study involving a careful analysis of each individual counselor response for secondary or resistance-affecting techniques used and of each counselee response for the degree of rapport. That is, a knowledge of the degree of rapport following the use of each secondary technique would be of great value in the attempt to find supplementary counseling techniques that will help to promote good rapport between the participants in a counseling interview.

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FRIENDSHIP CHOICES OF UNIVERSITY WOMEN STUDENTS¹

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THE college residence hall offers a unique opportunity for fostering the social adjustment of the students who reside in it. As counselors we need more knowledge of group dynamics to aid us in setting up an effective program of social education.

The Moreno sociometric technique makes possible the analysis of the relationships of individuals within a group. The framework of group organization can be analyzed by this technique, and cliques, cleavages, and persons dominant or isolated in the group structure can be identified. In this study the sociometric technique was employed to explore factors that contribute to friendships among college women.

The 148 students living in one of the residence halls at Indiana University were studied. The majority of these students were freshmen. The class distribution was 90 freshmen, 19 seniors, 32 juniors, and 7 sophomores. The hall had been occupied by upperclass women the preceding year, and most of the juniors and seniors had lived together for at least two years. The freshmen and sophomores were new to the hall that academic year.

At a general house meeting in the spring of 1946 the students were asked to respond to the following sociometric test: "Please list the names of your best friends among the students in ——— Hall. Limit the list to not more than ten names." These friendship choices were then tabulated according to factors that might be related to student choices. This article reports only three that showed a high relationship, namely, geographical proximity, class in the university, and religion.

Proximity and ease of contact certainly contributed to the

¹The authors wish to acknowledge the assistance of Miss Emily Taylor, Dean of Women at Northern Montana College, in the early stages of the study.

development of friendships. For example, roommates usually listed each other as friends: almost 90 per cent of the students in double or triple rooms reciprocated friendship choices with their roommates. Eight more students listed their roommates as friends, but their roommates did not reciprocate their choices. Only one pair of roommates mutually ignored or rejected each other. It should be mentioned that some roommate changes had been made during the year. A complete list of these reassignments was not available, but 16 changes of roommate pairs were known. Twenty-seven of the 32 individuals involved in these changes failed to list their former roommates among their friendship choices.

With the exception of the few cases mentioned, close association as roommates had fostered friendship. It is true that the original roommate assignments had been carefully made. The small group of upperclassmen had, with few exceptions, selected their own roommates, but the freshman assignments had been made on the basis of information on the hall application blank. The counseling staff had endeavored to match roommates on such factors as socio-economic status, mutual interests, religion, size of community and high school, and age. Any statement as to the influence of roommate association in the development of friendships must be limited by the condition that original roommate assignments are carefully made in an effort to match students who seem to have similar backgrounds.

Proximity as a factor in the formation of friendships also was confirmed by the fact that the majority of choices were made by students living on the same floor. The hall in which the study was made has three floors of student rooms. The first floor is divided by the living rooms and reception hall into two corridors which house 14 and 20 students. There were 61 and 53 students on the second and third floors, respectively. Sixty-nine per cent of all the friendship choices were made intra-floor. The third-floor students made 73 per cent of their choices from that floor, while the first-floor students who were geographically separated into two corridors were the least closely knit group.

The effect of proximity in the fostering of friendships was further illustrated by the tendency of students to form more friendships with students on the adjacent floor rather than on

more remote floors. The smallest number and percentage of choices were made between the first and third floors. Only 30 choices were made by the 34 first-floor students from students on the third floor, and 36 choices by the 53 third-floor students from the first floor. In contrast, the first-floor group made 73 choices from the second floor, and the third-floor students gave 69 choices from the second floor. Likewise, the students on the second floor averaged at least one choice per student from the first and third floors.

The students' class in the university also was an important factor in the formation of friendship. The freshman women tended to choose freshmen as friends with 78 per cent of their choices made within their class. The junior and senior women had lived together the preceding year, and many friendships had developed between these two classes. Actually 82 per cent of the 365 friendship choices made by the juniors and seniors were given to members of their own classes. There seemed to be a cleavage between these two upper classes and the freshmen. The juniors and seniors gave only 55 or 15 per cent of their choices to the 90 freshmen. Likewise, the freshmen made only 28 or 4 per cent of their choices from seniors and 96 or 14 per cent from juniors. The small number of sophomores in the study makes it impossible to draw conclusions regarding their group or class consciousness.

In the original roommate assignments an effort was made to assign freshmen as roommates and, likewise, upperclassmen as roommates. In fact, only 12 freshmen had upperclass roommates, but these mixed class assignments had been fairly successful. All but one of these freshmen and three of the upperclassmen included their roommates in their list of friends. Only one of the 16 known roommate changes of the year had involved an original assignment of freshman and upperclassman. This same upperclassman was reassigned another freshman roommate, and they reciprocated friendship choices. Obviously, class was not the factor in the lack of satisfaction of this upperclass woman with the original assignment.

One possible explanation of the apparent cleavage separating the juniors and seniors from the freshmen is the satisfaction of the upperclassmen with the friends which they had made during

the preceding academic year. Apparently they felt slight stimulus to spread their friendships to new students in the hall because of this satisfaction. The success of most of the mixed-class roommate assignments illustrates that friendships do develop between freshmen and upperclassmen when they are thrown in close contact and proximity to each other. However, class in the university was a significant factor in the formation of friendships.

The religion of the student was considered in original roommate assignments, and an effort was made especially to match Jewish, Catholic, and Christian Science students as roommates. The friendship choices of these three religious groups were explored for objective evidence of the importance of their religion in the formation of friendships.

There were 13 Jewish women among the 148 students in the hall. Five pairs or 10 of them were matched as roommates, and three of these pairs reciprocated friendship choices. One of each of the other two pairs chose her roommate as a friend, but the choice was not reciprocated. Three girls had non-Jewish roommates at the time of the sociometric study, and two of them reciprocated friendship choices with these roommates. Two of these three had been assigned Jewish roommates originally, and both ignored the former roommate in the list of friends, although one of them was chosen by her former roommate. In general, the matching of Jewish women as roommates seemed successful with eight of the 10 matched, thus listing their roommates as friends.

The 13 Jewish students made a total of 83 friendship choices with 38 or 46 per cent of them given to their own group. They received a total of 56 non-Jewish choices. In other words an average of 2.9 Jewish choices and of 4.3 non-Jewish choices were received per student and there was an average of 3.5 choices made to non-Jewish students by each Jewish student.

There were striking differences among individual Jewish students. The circle of friends of Student M was completely outside the Jewish group. She reciprocated friendship choices with seven non-Jewish students, and she chose no Jewish girls as friends. Another student, G, listed two Jewish friends and eight non-Jewish friends. She received friendship choices from four

Jewish girls and 11 non-Jewish girls. This young woman was an accepted member of the Jewish group, but she had a wide circle of friends among the non-Jewish students in the hall. The most popular member of the Jewish group, Student A, was listed as a friend by eight of these 13 girls. She chose only one non-Jewish girl as a friend, but she was listed by four of them. Actually, this popular student held a prominent position in both hall and campus activities and had wide contact with students.

It is difficult to generalize on the basis of these data. Certainly the Jewish students were well accepted by other students. On the average, each one of them had more non-Jewish than Jewish friends, but of course the non-Jewish students greatly outnumbered the Jewish students. There was, however, a rather close degree of unity within the group with the exception of the one student who had withdrawn completely. There was evidence that the assignment of Jewish roommates was successful in a majority of cases.

There were 18 Catholic students in the hall. Four pairs of them were matched as roommates at the time of the study, and each one of these eight students chose her roommate as a friend. Two other Catholic girls had been assigned as roommates in September, but each now had a non-Catholic roommate. Each one ignored the former roommate in listing her friends, but each reciprocated friendship choices with the present roommate. Seven other Catholic girls had Protestant roommates, and six of them reciprocated friendship choices with these roommates. The other girl was chosen by her Protestant roommate, but she, however, ignored the Protestant girl. The remaining student had been assigned a non-Catholic roommate in September, and they had disagreed. She had a single room at the time of the study. The matching of Catholic girls was successful in four out of five pairs originally assigned, but the matching of Catholic girls with Protestants was equally successful with eight of ten such assignments satisfactory to both roommates concerned. Obviously, in the original room assignment, as stringent effort had not been made to match Catholic girls as in the case of Jewish students.

The Catholic girls made a total of 131 friendship choices

with 19 or 15 per cent of them given to their own group. They received a total of 114 non-Catholic choices. In other words, an average of one Catholic choice and of six non-Catholic choices were received per student. There was an average of six friendship choices made from non-Catholic girls by each Catholic. Comparatively they made and received many more friendship choices from non-Catholic than Catholic students, but again the number of Catholic girls is small in comparison to the total group.

It is evident from the preceding data that there was less unity in the Catholic than in the Jewish group. The degree of cohesiveness in each group also was expressed in terms of the index of interaction. The formula for this index is:

$$\frac{100 (\text{Number of Reciprocated Choices plus Number of Choices Given})}{\text{Number}^2 - \text{Number}}$$

The index of interaction for the Jewish group was 24.3 per cent in contrast to only 6.2 per cent for the Catholic group. The Jewish group was more tightly knit than the Catholic group.

There were only five Christian Science students, and none of them was matched as a roommate to another Christian Scientist. While two of them named each other on their friendship lists, there were no other choices made among the group. Certainly there was no evidence that Christian Science students are unified by the bond of a common religion to the extent that it fosters friendships. If this group of Christian Science students is typical, no effort needs to be made to match students of this religious group.

The study has confirmed the importance of proximity, of class in the university, and in some instances of religion in the formation of student friendships. Other factors were explored in the original study, but only the more significant results have been reported here. The sociometric technique offers an effective method of determining factors in the choice of friends. It is equally effective in studying other forces in group relationships which have value to the personnel worker.

THE ROLE OF RESEARCH IN IMPROVING STANDARDS FOR COUNSELING AND GUIDANCE SERVICES¹

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INTEREST in and effort aimed at improved standards for counseling and guidance services have been increasingly apparent since the end of World War II. The last national meetings of the American Psychological Association (1) and The National Vocational Guidance Association (5, 6) (7) reflected this fact. Shartle (2), Darley *et al.* (3), and others (4) have published discussions of some of the important aspects which have attracted attention. Among the topics which have received more than passing notice are Improved Standards through State Certification Requirements, Improved Standards through Certification by Professional Societies, Improved Standards through Organized Cooperative Effort in Training, and Accreditation of Counseling Services. Important as these aspects may be, they should not be permitted to obscure the role of research in improving standards for counseling and guidance services.

In the last analysis improvement in the standards for counseling and guidance service depends primarily on the individual counselor, the knowledge he possesses, and how he uses it. The major problems, then, center on the selection, training and evaluation of the individual counselor.

Reference has been made to current and projected procedures for selection by professional or legal certification; improvement through standards for training of the individual; and evaluation of the agency. As interim measures, these procedures and standards may be necessary, but I suspect that their authors

¹ The opinions contained herein are those of the author and do not necessarily reflect the views of the Department of the Army.

² While he accepts full responsibility, the author desires to acknowledge the valuable comments of Dr. Mitchell Dreese of George Washington University.

would be among the first to admit that more objective validation of them is highly desirable.

As in any other selection research, a task of first importance is to make an exhaustive study of what those to be selected and trained do, in order that valid criteria of the effectiveness of their training and performance may be developed. A start has been made (2), but much more extensive and intensive research on the ramifications of the profession of counseling and guidance is needed. Detailed job schedules showing for every variety of counseling the what, when, where, how, and why, would contribute immeasurably not only to the development of performance standards, but to clearer definition of necessary and desirable training content. Jager (5) has suggested the importance of adequate, detailed information about what counselors must know and do on the job to make more effective cooperative efforts to improve counselor training.

The importance of detailed knowledge about the conditions and requirements of job performance in formulating training programs has been brought home to the Army most forcibly. Take a specific example: Prior to the establishment of the Army's occupational research program, training of the typical infantry soldier was designed to give him skill in the use of his rifle and in one of the six other weapons employed in the infantry company, i.e., automatic rifle, light mortar, heavy mortar, anti-tank gun, light machine gun or heavy machine gun. Scientific job study of what the infantry-man actually does and needs in combat has shown the complete unreality of this program. It is literally a matter of life or death for the infantry soldier to have a sufficient knowledge of all of these weapons to enable his using them in an emergency. The priority of employment of these weapons changes with the tactical situation and survival may depend upon the ability of those who are left to seize and use the weapons of greatest current importance dropped by the casualties. The modifications in Army training dictated by these findings have of course been made. Examples of this sort could be multiplied.

Selection should take place both prior to and during the training phase and should continue well after full-time employment is entered so that research to develop valid criteria of

performance in training as well as on the job is important. Job analysis should not only contribute to a greater objectivity in determining curriculum content for counselor training, and standards of later job performance, but should also facilitate better "engineering" of the jobs in the occupations of counseling and guidance. Some of the conflict of opinion about what constitutes appropriate training and standards may be resolved when the inter-relations among jobs, that is the feasibility and reality of a hierarchy in the occupation, emerge from research on counseling jobs. Another example from the Army may clarify what is meant here. In peacetime when the mission, strength, and pace of the military establishment are greatly reduced, many of the jobs in the Army are broad in scope; training is aimed at developing every soldier's knowledge and skill so that he is capable of performing a wide variety of tasks. Ideally the automotive mechanic is trained to effect any kind of repair on any vehicle. His job requirements demand broad training and job experiences. When war demands the speediest possible mobilization and training, on the other hand, Army jobs and training are "shredded out" as the Army's job analysts describe it. The job of automotive mechanic gives way to a whole series of jobs; automotive electrician, carburetor specialist, brake specialist and so on. Content and standards for training and job performance can be varied as requirements dictate because adequate data about the tasks and jobs composing the occupation have been secured through research. How much and what kind of training and experience should be required in order to qualify for a particular kind of counseling certificate could be agreed upon more readily if the precise kinds of knowledges, skills, and activities embraced by it were spelled out.

Research techniques could contribute not only to the training of individual counselors through clearer definition of knowledge, skill and job demands. If applied to the methodological problems of training, they should provide research answers to important questions of curricular organization and presentation. For example, should the approach to the curriculum be functional? That is to say, shall what is taught and the manner of its teaching be dictated by the uses for it which the

future counselor will encounter? Should exposure to real guidance and counseling problems and situations be concurrent with, or follow a long period of formal training? In what order should required knowledge and skill be presented using what methods in each instance?

Answers to other important questions related to selection and evaluation might become more evident. To what extent should standards of performance in training weight the ability to recognize or reproduce information and techniques, as contrasted with the skill in evoking a desirable outcome in real counseling situations? What are the inter-correlations between performance in various counseling situations, personal characteristics of the counselor, breadth and depth of formal knowledge and skill and so on? To what extent are there critical knowledges, skills or personal characteristics without which little or no success in any phase of counseling can be attained, which therefore indicate non-acceptance for or discontinuance of training for the profession? In the training of all types of counselors should substantial accent be placed on the development of a research attitude and competence in identifying and undertaking research problems in counseling and guidance?

The feasibility of obtaining research answers to many of these questions hinges on the success in developing valid criteria of performance in counseling situations. Interim answers based on the pooled judgment of carefully selected qualified experts may have to serve immediate needs and doubtless represent real progress. However, the health and status of any profession are, in the long run, proportional to its ability to render service which can be demonstrated to be effective and important. The more difficult it is to distinguish between the more and the less effective in any professional group, the greater is the urgency of research efforts to develop evaluative techniques yielding results whose significance can be grasped readily.

That the assessment of an exceedingly complex performance need not be confined to individual or group subjective judgments is suggested by several studies. These studies indicate that objective statistical summarization of a number of

variables can provide an assessment of performance which is more reliable than any single judge's subjective estimate; just as reliable as the estimate of a group of competent judges and much easier and less costly to obtain. While the criterion problem in the case of counseling activities is undoubtedly most difficult, some progress appears possible through intensive coordinated research. Attempts must be made unless counselors are to be judged, rightly, as unwilling to apply to themselves the scientific research approach basic to many of the tools they employ. Selection, training, and certification techniques for counseling and guidance personnel and agencies must be subject to rigorous validation, not merely against standards of prescribed training and facilities, however carefully determined by experts, but against job performance.

I do not mean to imply that the need for validation by follow-up studies has completely escaped notice. Efforts have been made to compare actual outcomes with those developed by the counselor and counselee in the course of the process of counseling and guidance. But claims for the effectiveness of the individual counselor or agency or for counseling as a professional activity, would command more widespread attention and acceptance if research data were being systematically accumulated and published on a large scale. It is in this connection that mention was made earlier of the possible desirability of including among the objectives of counselor training, the development of a research attitude toward counseling and guidance.

The author's Army experience has convinced him of the great value of organized, integrated, cooperative, personnel research programs. In the long run a comprehensive, organized research attack on the manifold problems of the counseling and guidance profession will be the best avenue to effective selection, training, and evaluation of its members and agencies. The anomaly of a professional group whose members have more, objective, verified information about the nature and requirements of many other occupations than they do about their own should not, and will not, continue.

Many of the kinds of research problems indicated in this brief survey are of the utmost complexity and present extreme

difficulties of accomplishment. Nevertheless, if standards are to be not only established and maintained, but improved, coordinated planning and execution of such research should be prominent among the means employed.

If interested members of the American College Personnel Association, the National Vocational Guidance Association and the American Psychological Association, will promote and support effective action by these organizations to plan a joint research program for which necessary means of prosecution can then be sought, we may look forward with confidence to continued improvement in the standards and status of the profession.

Summary and Recommendations

It is the thesis of this discussion that the research techniques characteristic of Personnel Psychology should, at the earliest possible date, play a dominant role in improving standards for counseling and guidance services.

1. Job analysis techniques should be exploited to determine:
 - a. What counseling and guidance now is, as well as what experts believe it should be
 - b. What counselors must know, do, and be
 - c. Leads for the development of criteria of effective performance
2. Content and methodology of instruction for counseling and guidance personnel should be determined ultimately by research aimed at their validation against criteria of effective performance on the job.
3. Selection of personnel to be trained in the field should employ the best tools and procedures which current technology can provide and should be validated not only against success in training but on the job.
4. While the complexities and difficulties are awesome, the logic of the situation demands that the techniques, basic to whatever scientific pretensions characterize counseling and guidance as a profession, be applied to the selection, training and evaluation of its own personnel and agencies. The professional organizations having interest in counseling and guidance should initiate plans for an integrated, cooperative research attack by all concerned.

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SOCIO-ECONOMIC BACKGROUND OF WOMEN STUDENTS AT INDIANA UNIVERSITY¹

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WITH the recent recommendation of the President's Commission on Higher Education for a doubling of the numbers of college-age youth on the campus, new interest arises in the socio-economic sources of our present campus population. This study was undertaken to ascertain the sources of all of the women students at Indiana University and to relate the sources of all the women students of Indiana University to their curricular choices and to their membership in fraternal organizations.

A tabulation was made of the personal data of the 2,517 women students, enrolled during the second semester 1944-45, from the official records in the Registrar's and the Counselling offices. These data included the following items: occupation of father, home address, school and major subjects in the University, and membership in national women's social fraternities. To insure greater accuracy and to reduce the number of incomplete entries, the personnel card was checked with the student at the time of registration by a special clerk.

That university students are not uniformly distributed in all social classes is not a startling discovery, and Table 1 indicates the usual skew in the distribution or the degree of affinity between the higher social classes and college attendance. The direct relation between social classes and higher education is continuous and unbroken. Although the professional classes, for example, represent only 4.7 per cent of the state's population, the student body shows 17.7 per cent affiliated with that class, yielding an index of representation of 377. On the other extreme, the unskilled group represents 20 per cent of the state's population and only 3.4 per cent of the women student body,

¹ This study was made possible by a grant from the Administrative Research funds of Indiana University.

which is only about 17 per cent of its theoretical quota. The data from a similar study in 1940 show almost identical trends.²

Because of certain population traits, this under-representation of the lower classes is probably more exaggerated than these figures would indicate. If the proportion of each socio-economic class in the state's population were weighted by the number of children characteristic of the class, the index of representation in the college population would be still further depressed for the lower classes where children are more numerous.

TABLE 1
Per cent Distribution of Socio-economic Classes in Indiana University and in the State of Indiana and their Indices of Over- or Under-representation in the University

Socio-Economic Class	Indiana University		State of Indiana†	Index of Representation in the University‡	
	Number	Per cent		1945	1940
Professional.....	359	17.7	4.7	377	375
Proprietors, Managers, Officials.....	441	21.7	4.7	462	
Wholesale & Retail Dealers.....	191	9.4	5.0	188	250
Salesmen, Clerks, and Kindred Workers.....	318	15.7	12.8	123	210
Farmers (Owners and Tenants).....	245	12.0	15.9	75	75
Skilled Workers.....	259	12.8	17.0	75	61
Semi-skilled Workers.....	80	3.9	19.9	20	27
Unskilled Workers (Incl. farm laborers).....	70	3.4	20.0	17	11
Unknown.....	68	3.4			
Total*.....	2031	100.0	100.0		

* Excludes 486 out-of-state students.

† Adapted from: Alba M. Edwards, *Comparative Occupation Statistics, U. S. 1870-1940, 16th Census*, United States Bureau of Census, 1943.

‡ The index is a measure of representation such that 100 would indicate a uniform distribution of social-economic classes for both the state and the University. Therefore an index of 377 shows that the professional class is over-represented by almost four times in the University population, as contrasted with the expected proportion from the state population.

Then, too, large state universities such as Indiana University attract a disproportionately larger number of students from these classes in comparison to the private colleges and universities where tuition costs are much higher, and competition for admission more keen. On the other hand, this circumstance may be partially offset by the enrollments in teachers' colleges of which there are several in the state of Indiana, where one might find a larger proportion from these classes. Nothing less than an

² Mueller, John H. and Mueller, Kate H., "Socio-Economic Background and Campus Success," *EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT*, III (1943), 143-150.

adequate sampling of every type of college in the state, and a survey of the youth of the state who are attending out-of-state colleges would justify specific conclusions on these questions. There is no reason to doubt, however, the approximate validity of these findings as generally applicable to the total situation in regard to women students. For men students, who enjoy different outlooks on life and widely different personal habits and economic resourcefulness, the distribution of enrollment might show different characteristics. A comparable study for men is now in progress.

Much of the social life of the midwestern campus is centered around the Greek letter fraternities and it is therefore important to follow the progress of the socio-economic groups through their fraternity affiliations, which will give a measure of their adjustment to campus life. The fifteen women's fraternities at Indiana University in 1945 which have membership in the National Panhellenic Congress may be divided roughly into three groups on the basis of their age, size on this campus, and general prestige. Table 2 offers evidence to show that the hierarchy of prestige which the fraternities enjoy is in general supported in terms of the social-economic classes from which they draw their membership. Group I, comprising the five oldest organizations, draws more heavily from the three highest classes. Group III, comprising the five youngest and smallest groups, draws more frequently from the salesman, farmer, and skilled-worker classes. More specifically, Group III draws twice as high a proportion from these four lowest groups, as Group I.

On the basis of the 36 per cent of the total number of women students who held sorority memberships, the over or under-representation is given in Table 2 for each socio-economic class. It is obvious that the four lower classes are grossly under-represented, and this situation places a heavy burden of responsibility on the University for providing and encouraging adequate and low-cost opportunity for social contacts and the development of social skills for these students.

When the indices for sorority membership are calculated for students from rural, small town, and metropolitan areas, the highest index is shown for middle-sized cities, 2,500 to 25,000

with an index of 130, and for cities of 25,000 to 100,000 with an index of 117. The largest cities of the state, 100,000 and over (Fort Wayne, Gary, Indianapolis, and South Bend) approximate more closely the expected index (108). The largest cities, all out of state, and the farm and rural non-farm areas within the state, are all under-represented with indices of 64, 50, and 88 respectively. Apparently the fraternal organizations are a phenomenon to a large extent of middle-sized cities. This may be inferred from the fact that, for example, 36 per cent of the total women student body is affiliated with sororities, but 45 per cent of the women students from cities 2500-25,000 and 40 per cent from cities 25,000-100,000 are so affiliated. Rural

TABLE 2
Per cent of Each Socio-economic Class in Specified Sorority Groups, in the Unorganized Group

Socio-Economic Class	Per cent in Specified Sorority Groups				Unorganized	Index* Sorority Membership
	Total	I	II	III		
Professional.....	48	22	14	12	52	133
Proprietors, Managers, Officials.....	48	19	17	12	52	133
Wholesale and Retail Dealers.....	38	17	11	10	62	106
Farmers.....	13	3	4	6	87	36
Skilled Workers.....	20	3	7	10	80	56
Semi-skilled Workers.....	18	1	10	7	82	50
Unskilled Workers.....	6	0	4	2	94	17
Unknown.....	12	3	4	5	88	33

* Let 100 equal the total per cent of women affiliated, which is 36 per cent. Since 48 per cent of the professional group are affiliated, their representation, over expectancy, is 33 per cent. The index is therefore 133.

students especially are at a distinct disadvantage in establishing the security in social relations which sorority membership accords to its members on the campus.

Not only do the four lower classes send a smaller proportion of their children to the University, but according to Table 3, of those who do enter, a relatively smaller proportion remain to earn a degree.³ The significant figure in this table is the high index of graduating seniors from the professional class in contrast to that of other social-economic classes. This is confirmed

³ These calculations are only approximations, since they assume a constant ratio of enrollment throughout the four years preceding 1945 in regard to the socio-economic classes. That this assumption is fairly sound, is shown by the fact that there are only small changes in the proportion for each class in 1940 and in 1945. It would be ideal to follow a cohort of freshmen through their four college years, but until such data are available, these tentative conclusions may be acceptable.

also in the 1940 study where the index was 167. In the 1940 study, it was also shown that the grades for the professional class were somewhat higher and the academic honors (memberships in departmental Greek letter societies, etc.) noticeably higher. In explanation, it might be argued that the professional classes are better motivated, and find more pleasure in their academic achievement. It is also probable that the daughters of the professional classes show more willingness to delay marriage until after graduation than do the girls from other classes.

TABLE 3
*Per Cent Distribution of Socio-Economic Groups of Women Students in
Indiana University by Classes, and Index for Seniors in Terms of
Entering Freshmen, 1945*

Socio-Economic Class	Freshmen Per Cent	Sophomores Per Cent	Juniors Per Cent	Seniors Per Cent	Index for Seniors- Fresh- men
Professional.....	15.1	20.4	19.1	22.6	150
Proprietors.....	21.5	23.4	23.8	23.7	110
Wholesale-Retail Dealers.....	10.6	8.3	9.01	9.81	92
Clerks.....	16.3	17.5	18.5	16.6	102
Farmers.....	13.0	9.5	8.4	9.8	75
Skilled.....	14.0	11.8	12.5	7.9	56
Semi-skilled.....	4.4	2.9	3.7	3.3	75
Unskilled.....	2.9	3.3	1.5	1.9	65
Unknown.....	2.2	2.4	3.5	4.4	—
Total.....	100.00	100.00	100.00	100.00	—

Financial difficulties also contribute to the losses in some of the lower classes.

In view of the current shortage of teachers, it is of interest to note that in general it is the lower socio-economic classes which are sending more than their quota of recruits into the teaching profession (Table 4). It is unfortunately not possible to compare our data with the distribution of students in the Teachers Colleges of the state in the various economic classes. The generalization holds true, however, for those students who seek their training at the University, and there is no reason to believe that it may be otherwise in other institutions of learning in this state.

Daughters of farmers, perhaps attracted by the contrast of city life and opportunities, are much over-represented in the Business School. This is confirmed by the similar over-representation of both rural and rural-non-farm (villages of less

than 2500) in the Business School, as indicated in Table 7. The only other significant feature in this table is the over-representation of the metropolitan centers in the Arts College, and their under-representation in the Business School. Women students from such centers, (all of them from outside the state of Indiana) apparently seek the liberal education rather than the vocational.

TABLE 4
Indices of Representation of Socio-Economic Groups in Specified Schools
(Freshmen omitted)

	Arts and Sciences N-745	Index of Choice	
		Education N-270	Business N-263
Professional.....	111	82	84
Proprietors.....	104	84	110
Wholesale-Retail Dealers.....	94	102	123
Clerks.....	102	94	88
Farmers.....	87	99	141
Skilled Workers.....	99	122	108
Semi-Skilled Workers.....	93	131	62
Unskilled Workers.....	93	109	83

TABLE 5
Geographical Distribution of Women Students by Classes, Senior and Freshman Index

	All Students		Freshmen		Senior		Index of Seniors
	Num- ber	Per cent	Num- ber	Per cent	Num- ber	Per cent	
Indiana.....	2031	80.7	781	80.2	303	82.6	128
Contiguous States.....	214	8.5	86	8.8	30	8.2	93
Other States.....	257	10.2	103	10.6	31	8.5	80
Unknown.....	15	0.6	4	0.4	3	0.7	
Total.....	2517	100.0	974	100.0	367	100.0	

Tables 5 and 6 indicate the sources by states, and sizes of home towns, of the women students at the University. About 11 per cent of the women come from farms, another 16 per cent from towns of less than 2500 inhabitants, making about 27 per cent of the women student body quite clearly in the non-urban group. Cities from 25,000 to 500,000 claim an additional 44 per cent and a small group, about 4 per cent, come from metropolitan centers (necessarily outside the state of Indiana) of 500,000 or more population. In comparing the degree students, those who stay four years and earn the Bachelor's degree,

with those entering the University, the under-represented groups are the farm students and the metropolitan students, and the over-represented are the small town, (under 25,000) group.

TABLE 6

Urban-Rural Distribution of Women Students by Classes; Per Cent in the State, and Index of Over- or Under-representation; Indices for Seniors in Terms of Entering Freshmen

	All Students		Per cent of Indiana Population	Index* of Representation	Index of Seniors
	Number	Per cent			
Farm.....	228	11.2	23.7	47	65
Rural, Non-Farm.....	328	16.1	21.2	76	40
Towns: 2500-25,000.....	572	28.1	16.2	173	97
Towns: 25000-100,000.....	320	15.8	17.9	88	105
Cities: 100,000-500,000.....	576	28.4	21.0	135	99
Unknown.....	7	0.4			
Total.....	2031	100.0	100.0		

* Let 100 equal the per cent of Indiana population of specified geographical groups. Thus, the University Farm students, with only 11.2 per cent and the Indiana population, with 35.6 per cent are under-represented by about two-thirds. The index: 31.

TABLE 7

Indices of Representation of Specified Groups in the Various Schools of the University

Geographical Groups	Index of Choice		
	Arts and Sciences	Education	Business
Rural-Farm.....	95	99	118
Rural-Non-Farm.....	84	111	126
Small Town 2500-25,000.....	104	92	101
Midsized 25,000-100,000.....	108	87	96
City 100,000-500,000.....	106	107	88
Over 500,000.....	124	98	51
Indiana.....	98	100	105
Contiguous States.....	101	93	99
Other States.....	115	96	55
Sorority Groups.....	102	81	114
Unorganized.....	98	110	87

As already inferred above, the figures in Table 6 are not necessarily representative of students from these areas in educational institutions in general. There would be reason to believe that Purdue University, the Land-Grant College for the state of Indiana, attracts more students from the Rural and Rural-non-Farm areas, and that the farm girls attend Purdue unless they plan for a business career, for which training would be

available only at Indiana University. Studies similar to the present one at all four state institutions might be expected to reveal over- and under-representation of various classes and areas in the various colleges.

The various undergraduate schools of the University exert a different attraction upon the respective socio-economic classes. Broadly speaking, the higher social classes enroll in the College of Arts and Science, while the School of Education with its strong vocational emphasis exerts a greater attraction for the lower groups.

At the time of registration, each woman student was asked to name her major subject, and approximately 80 per cent of them responded. Technically, the major subject is not declared until the end of the second year, and many first- and second-year students are very uncertain in regard to their final choice. The information gathered from these cards indicated, therefore, in perhaps 50 per cent of the cases, only the student's present intention or tentative choice.

It is apparent that there is some trend, although not completely consistent, for the students affiliated with sororities to choose the more liberal education, in contrast to the more professional or vocational curricula. This is to be noted especially in the choice of major subject where that has been noted on the registration cards. Approximately 34 per cent of all the women were undecided about their major subjects, but of those who did declare themselves, the index for the sorority students is high for Languages (141), the Humanities (116), the unusually low for Nursing, Home Economics, and Education. In contradiction to this trend, however, the sorority students show a high index for both Business as a major subject and for enrollment in the Business School, perhaps because proprietors, managers, wholesale and retail dealers are over-represented in the sororities.

Indices calculated for the major subjects of the various socio-economic groups are not given in detail because there are no striking differences nor general trends. The greatest deviations occur with the farmers, who show an index of 170 and 159 for Business and Nursing, respectively, and under-representation in all other subjects. In general the higher economic groups show

more decision and the lower groups more uncertainty in recording their preferences.

The 97 major subjects printed on the registrar's card and checked by the students have been grouped together as Physical Sciences, Languages, Humanities, etc., and the index number has been calculated for the socio-economic classes, the home state and home town groups and the sorority and unorganized groups. There are but few striking differences, other than the trends which are apparent in the index numbers for schools in Tables 4 and 7. The professional class is attracted strongly to the Sciences (117) and the Humanities (111). Farmers have their highest index numbers on business subjects (170) and Nursing (159), and are under-represented in every other subject. All three of the laboring classes are over-represented in Teaching, (113, 138, 206), and all three are very much under-represented in Journalism (21, 60, 88). There are few differences between the in-state and out-of-state students, except that the non-state students are over-represented in English and Speech, and in Teaching, and under-represented in Business, Nursing, Fine Arts, and Music. Sorority groups are over-represented in Languages (168) and Business (128), and the unorganized in Nursing (122) and Home Economics (121). The farm and rural-non-farm girls again show a strong preference for Business and Nursing, and the girls from the largest cities are over-represented in Journalism, and the Sciences.

More frequent and extensive studies of the sources of our students will be necessary before we may be able to trace the trends and movements in student population groups. Especially with the government program of financing higher education for the veterans of World War II, the study of the sources of these added students would contribute much needed information for the understanding of the effectiveness of our educational program as a democratic nation.

A NOTE ON THE RELATIONSHIP OF THE KUDER PREFERENCE RECORD SCALES TO COLLEGE MARKS, SCHOLASTIC APTITUDE AND OTHER VARIABLES

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AND

R. T. OSBORNE¹

As Strong² has pointed out, it has been difficult to secure good samples for use in differentiating occupational interest patterns among college students. In the case of the present study, data were available on rather large samples of both Business Administration and Arts and Sciences students of the University of Georgia, as secured at the University Guidance Center. Data on several thousand students had been coded and punched on Hollerith cards. This covered many test scores and other pertinent scholastic and personal data. Although not collected in a planned experimental study, it appeared that much of the data had representative qualities.

In the study now reported, all data relates to records secured at the Center during the scholastic year 1946-47. The several groups used in the present study were selected in the following manner:

1. The Control Group is composed of approximately 240 male University of Georgia students selected at random from those students who, at the time the study was undertaken, had not been excluded or placed on probation for scholastic deficiency.

2. The Probation-Exclusion Group is made up of those male students ($N = 180$) who were excluded or placed on probation

¹ Veterans Administration Branch Office #5, Chief Clinical Psychologist and Acting Director, University of Georgia Guidance Center, respectively. Published with the approval of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed and conclusions drawn by the authors.

² Strong, E. K., Jr. *Vocational Interests of Men and Women*. Stanford University: Stanford University Press, 1943, p. 47.

for scholastic deficiency during Fall Quarter 1946 and Winter Quarter 1947.

3. These two major groups were studied in preliminary analysis from a number of approaches. The subgroups reported in this study are as follows: (a) students in the School of Business Administration; (b) students not in the School of Business Administration; (c) students earning scores above the 25th percentile on the *Ohio State Psychological Test, Form 21*; and (d) students earning scores below the 25th percentile on the *Ohio State Psychological Test*. Norms used are national percentile norms except the *American Council Psychological Examination*, 1946 Edition, in which case University of Georgia Freshman norms were used.

Results

In Table 1, the Control Group is compared with the Probation-Exclusion Group. It is seen at once that the Probation-Exclusion Group is an inferior group on scholastic indices. In turn, the Control Group falls within normal limits as respects average scholastic test scores. The two groups differ significantly as respects scholastic ability, the mean percentiles of the Control Group on all such indices being higher than the mean percentiles of the Probation-Exclusion Group. The difference in means between the two groups on the *Bell Adjustment Inventory* is not statistically reliable.

In Table 2 are presented correlation coefficients between *Kuder Preference Record* subtest scores, the *Ohio State Psychological Test, Form 21*, and college marks (weighted grade³) for students selected at random from the School of Business Administration. From the table it is seen that the only reliable correlation coefficient is between the Literary interest subtest of the *Kuder Preference Record* and scholastic aptitude as measured by the *Ohio State Psychological Test*. In all instances except one, these *r*'s compare favorably with the correlations reported in earlier studies. Yum⁴ found the highest correlation (+ .34) between the Literary interest score and college

³ Weighted grade is determined by multiplying the earned course grade by the number of hours the course meets per week.

⁴ Yum, K. S. "Student Preference in Divisional Studies and Their Preferential Activities." *The Journal of Psychology*, XIII (1942), 193-200.

marks. The present data yield a correlation coefficient of + .38 between Literary interest scores and the *Ohio State Psychological Test*, Total Score.

TABLE 1

Comparison of Control and Probation Groups in Terms of Mean Percentiles on Tests of Intelligence, Scholastic Aptitude, and General Educational Development

Test	Control Group		Probation Group		Diff.
	N	Mean %ile	N	Mean %ile	
OSPT Total Form 21.....	445	53.97	275	32.84	21.13*
Otis Q. S. Gamma.....	344	72.41	238	56.00	16.41
GED I Exp.....	240	34.92	190	19.10	15.82
GED II Soc. Sci.....	286	61.81	210	40.09	21.72
GED III Nat. Sci.....	350	68.74	218	46.17	22.57
GED IV Lit. Mat.....	326	41.67	217	26.84	14.83
Iowa Content Eng.....	162	54.33	156	33.34	20.99
Iowa Content Math.....	156	72.74	146	53.92	18.82
Iowa Content Sci.....	160	57.92	148	38.34	19.58
Iowa Content Soc. Sci.....	157	58.58	146	38.76	19.82
Iowa Content Total.....	152	62.33	144	42.01	20.32
ACE Total.....	40	57.75	65	37.92	19.83
Bell Adj. Total.....	221	57.08	178	58.17	1.09

* All differences significant at 1% level of confidence except Bell Adjustment Inventory.

TABLE 2

Correlation Coefficients Between Kuder Preference Record Scales, Ohio State Psychological Test and College Marks for Control Group (N = 152)

Scale	Ohio St. Psy. Test Form 21	Weighted Grade (College Marks)
Mechanical.....	-.18*	-.10
Computation.....	-.13	+.03
Scientific.....	-.04	+.05
Persuasive.....	+.03	-.06
Artistic.....	-.10	-.02
Literary.....	+.39	+.08
Musical.....	+.03	+.04
Social Service.....	-.24	-.11
Clerical.....	-.04	+.05

* All P.E.'s approximately = .05.

Table 3. *Kuder Preference Record* responses for the Control Group are divided into four subgroups as follows: (a) Business Administration students; (b) non-Business Administration students; (c) students who earned a percentile rank below Q_1 on *Ohio State Psychological Test*; (d) students who earned a percentile rank above Q_1 on *Ohio State Psychological Test*.

On all Kuder subtest scores except one (Musical), the Busi-

ness Administration students differed significantly from the non-Business Administration students. On five subtests (Mechanical, Computational, Scientific, Persuasive, and Clerical) the differences are significant at the 1 per cent level, while three differences (Artistic, Literary, and Social Service) are significant at the 5 per cent level. On Mechanical, Scientific, Artistic, Literary and Social Service interests, the non-Business Administration students are significantly higher than those in the School of Business Administration. On Computational, Persuasive and Clerical interests, the Business Administration students are significantly higher than the non-Business Administration students.

TABLE 3
Comparison of Business Administration Studies of the Control Group in Terms of Mean Percentile on Kuder Preference Record Scales

KPR Scale	Bus. N = 84	Non-Bus. N = 150	Diff.	Below Q ₁ OSPT N = 40	Above Q ₁ OSPT N = 198	Diff.
Mechanical.....	29.01	39.17	10.15*	47.50	32.51	14.99*
Computation.....	68.33	42.92	25.41*	54.17	50.75	3.42
Scientific.....	27.43	44.25	16.82*	42.92	37.76	5.16
Persuasive.....	81.91	60.44	21.47*	62.71	69.41	6.70
Artistic.....	37.92	45.59	7.67†	50.00	41.51	8.49
Literary.....	53.12	61.72	8.60†	33.09	63.66	30.57*
Musical.....	57.38	51.39	5.99	48.75	54.67	5.92
Social Service.....	60.56	69.41	8.85†	74.99	64.50	10.49†
Clerical.....	71.83	45.25	26.58*	50.83	54.92	4.09

* Significant at 1% level of confidence.

† Significant at 5% level of confidence.

Further analysis of the *Kuder Preference Record* scores for the Control Group shows that there is little difference in the Kuder subtest scores when this group is divided into those earning above Q₁ on the *Ohio State Psychological Test* and those earning below the Q₁ on the *Ohio State Psychological Test*. The high scholastic aptitude group scored significantly higher on the Literary subtest of the *Kuder Preference Record*. The low aptitude group was higher on Mechanical and Social Service interests.

In Table 4, probation and excluded students are compared by college and level of scholastic aptitude. This group of Business Administration students who were on probation scored significantly higher than the non-Business Administration pro-

bation students on Computation, Persuasive, and Clerical subtests. The non-Business Administration students were higher on Scientific interests. Other differences in interest scores are not significant below the 5 per cent level. It will be recalled that the Control Group of Business Administration students scored higher than non-Business Administration students on Computation, Persuasive, and Clerical subtests, while the Control Group of non-Business Administration students scored higher on Mechanical, Scientific, Artistic, and Literary subtests.

It is seen from Table 4 that probation and excluded students of low measured scholastic aptitude (below Q_1 on *Ohio State*

TABLE 4
Comparison of Business Administration Students vs. Non-Business Administration Students of the Probation Group in Terms of Mean Percentile on Kuder Preference Record Scales

KPR Scale	Bus. N = 78	Non-Bus. N = 76	Diff.	Below Q_1 OSPT N = 90	Above Q_1 OSPT N = 92	Diff.
Mechanical.....	34.09	34.17	.08	36.34	37.26	.92
Computation.....	65.33	45.84	19.49*	59.72	52.74	6.98
Scientific.....	30.51	42.59	12.08*	34.76	37.09	2.33
Persuasive.....	76.16	61.14	15.02*	70.66	68.99	1.67
Artistic.....	39.84	46.34	6.50	44.00	42.26	1.74
Literary.....	56.71	56.32	.39	43.42	61.79	18.37*
Musical.....	54.68	51.49	3.19	55.74	50.48	5.26
Social Service.....	63.58	68.83	5.25	67.58	63.33	4.25
Clerical.....	70.41	49.85	20.56*	64.83	55.14	9.69†

* Significant at 1% level of confidence.

† Significant at 5% level of confidence.

Psychological Test) differ from similar students of higher aptitude (above Q_1 on *Ohio State Psychological Test*) on only two subtests of the *Kuder Preference Record*. Those of higher aptitude are significantly higher in Literary interests, while those of lower aptitude are slightly higher in Clerical interests. Other differences are not significant below the 5 per cent level.

In Table 5, students on scholastic probation are compared with the Control Group by college and *Kuder Preference Record* subtest scores. There are no statistically reliable differences in means in Kuder subtest scores for this group; i.e., *Kuder Preference Record* scores for students on scholastic probation do not differ significantly from those not on probation.

Probation students who are in the School of Business Administration do not differ in *Kuder Preference Record* scores from Control Group students who are in the same school. It is also seen from this table that *Kuder Preference Record* scores of probation students selected at random from the University population do not differ significantly from *Kuder* scores of students selected at random from the School of Business Administration. Although no difference in Table 5 is significant below the 5 per cent level, the direction of the differences seems to suggest that students in the School of Business Administration, who are not on scholastic probation, score higher on those *Kuder* subtests which are typical of business

TABLE 5
Comparison of Control and Probation Groups in Terms of Mean Percentile on Kuder Preference Record Scales

KPR Scale	Business Administration			Non-Business Administration		
	N = 78 Probation	N = 84 Control	Diff.	N = 76 Probation	N = 150 Control	Diff.
Mechanical.....	34.09	29.01	5.08	34.17	39.17	5.00
Computation.....	65.33	68.33	3.00	45.84	42.92	2.92
Scientific.....	30.51	27.43	3.08	42.59	44.25	1.66
Persuasive.....	76.16	81.91	5.75	61.14	60.44	.70
Artistic.....	39.84	37.92	1.92	46.34	45.59	.75
Literary.....	56.71	53.12	3.59	56.32	61.72	5.40
Musical.....	54.68	57.38	2.70	51.49	51.39	.10
Social Service.....	63.58	60.56	3.02	68.83	69.41	.58
Clerical.....	70.41	71.83	1.42	49.85	45.25	4.60

school students than do probation students. If this direction of differences were reliable, it would suggest a trend of interpretative value. The non-Business Administration non-probation students scored higher on the subtests which are typical of the group selected at random.

Summary

Test results and scholastic records of over 400 University of Georgia male students were analyzed by level of scholastic aptitude, college marks, occupational preference and academic adjustment. Results of this preliminary study seem to justify the following conclusions:

1. Students in the School of Business Administration seem to

have characteristic occupational interest profiles on the *Kuder Preference Record*. Business Administration students, whether selected at random from the University student body or selected from the list of probation and excluded students, scored significantly higher on the Persuasive, Computational, and Clerical scales of the *Kuder Preference Record* than do non-Business Administration students.

2. The present data show no significant relationship between the several *Kuder Preference Record* scales and weighted grade; i.e., for the subjects of this study, college marks could not be accurately predicted from scores on the *Kuder Preference Record*.

3. A slight positive relationship was found between scores on the Literary scale of the *Kuder Preference Record* and scholastic aptitude, while Social Service, Mechanical and Computational scores seem to show low but negative relationship to scholastic aptitude.

4. *Kuder Preference Record* scores for students on scholastic probation do not differ significantly from scores made by students not on probation. Numerically, the mean percentiles of non-probation students are higher than those of probation students in Business Administration on those sub-tests that are typically high for students of this school. That the difference is not statistically significant makes additional comment largely speculative. There is, however, sufficient intimation that "highness" on these typically high sub-scores may relate to factors underlying successful work in this school so as to warrant more extensive study.

MOTIVATION AS A PREDICTOR OF COLLEGE SUCCESS¹

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THE present study has two purposes. One of them is to check on the stability of formulas for predicting college success. It is suspected that a formula developed on data acquired in any one academic year may not yield the same results with data gathered in another year. The second purpose is to investigate the contribution which motivational and adjustmental factors may make to college success. The New York State College of Agriculture has consistently conducted exit interviews with students who leave the College before completing their work. As a result of these interviews the conviction has developed that circumstances other than academic ability play a significant role in success or failure. The second phase of this study received its content largely from the records of such interviews.

In a previous study (1) the average of Regents' Grades² was found to be the best single measure for predicting college success. The correlation was .53 between the Regents Average and the first-term average of students in the College of Agriculture. The best single test among those used for prediction was found to be the *Ohio State Psychological Test*. The correlation between this test and the first-term average was .45. A multiple correlation between a team of four weighted scores (*Cooperative Science Test*, *Cornell Mathematics Test*, *Ohio State Psychological Test* and Regents Average) and the first-term average was .57 for all students and .64 for those enrolled in the general curriculum of the College of Agriculture.

At the time the study was completed certain suggestions for

¹ The study was conducted by the University Testing Service at Cornell University in cooperation with the counselors in the College of Agriculture.

² Scores derived from *New York State Regents Examinations* constructed by the New York State Education Department and given at the completion of specific high-school courses. The average referred to is a non-weighted average of scores obtained on all such tests taken by the student. It is known throughout the state as the Regents Average.

further study were made. These were (1) the inclusion of a measure of aptitude for college science which was independent of intellectual capacity insofar as possible, and (2) the inclusion of a measure of motivation in the battery of tests used for prediction.

With reference to the first suggestion, the University Testing Service included a revised version of the 1939 *Johnson Science Application Test* in the freshman testing program. With reference to the second suggestion an *Orientation Inventory* was devised and given to all freshmen during the first month of college. A copy of the Inventory appears in Table 4.

Present Findings

The results found in the present study show similarities to findings in the previous study as well as certain new findings. A list of correlations is presented in Table 1.

As in previous years the Regents Average continues to be the best single measure for predicting success in college. The correlation was .54 between the Regents Average and the first-term average compared to the .53 found previously. The *Ohio State Psychological Test* was again the best single test for prediction purposes in the battery used. Its correlation with the first-term average in the present study is .36 compared to .45 in the previous study. This does not represent a significant drop. The difference between .45 and .36 is, via Fisher's Z transformation, only once its standard error. The distribution of scores in 1947 and 1948 for each of the tests is very similar. This is shown in the table of mean scores and standard deviations, Table 2.

The *Revised Johnson Science Application Test* proved to have predictive qualities very similar to the *Cooperative Science Test*.

One of the most promising findings in the present study appears to be the usefulness, for the prediction of the first-term average, of measures of motivational influences and certain obstacles to student achievement. The choices for each question on the *Orientation Inventory* had been graded from 1 to 5, one indicating that the factor would not hinder the individual's achievement and 5 indicating that the factor would hinder the achievement considerably. The items on the *Orientation Inventory* were scored by totaling the choices checked. The choices

TABLE 1
Intercorrelations Between Scores Studied for Prediction Formulas in 1947 and 1948

	1947 N, 324	1948 N, 150		1947 N, 324	1948 N, 150
C, 1	.53	.54	2, 5	—	.40
C, 2	.45	.36	2, 3	.47	.61
C, 3	.32	.27	2, 1	.51	.41
C, 4	-.05	.08	2, 8	—	.29
C, 5	—	.27	2, 9	—	.59
C, 6	—	-.22	2, 6	—	-.07
C, 7	—	-.32	2, 7	—	-.15
C, 8	—	.57	5, 1	—	.41
C, 9	—	.76	5, 3	—	.71
C, 10	—	.58	5, 6	—	.08
			5, 7	—	-.10

C—Criterion.

1—Regents Average.

2—Ohio State Psychological Examination.

3—Cooperative Natural Science Test.

4—Farm Experience Credits.

5—Revised Johnson Science Application Test.

6—Total Orientation Score.

7—Part Score on Orientation Inventory.

8—Freshman English Grade, Autumn Term.

9—Freshman Chemistry Grade, Autumn Term.

10—Mid-term Freshman Average, Autumn Term.

Correlations Between

First term college average and

Regents Average.....	.53	.54
Ohio State Psychological Exam.....	.45	.36
Cooperative Natural Science Test.....	.32	.27
Farm Experience.....	-.05	.08
Revised Johnson Science Test.....	—	.27
Total Orientation Score.....	—	-.22
Part Score on Orientation Inventory.....	—	-.32
Freshman English Grade.....	—	.57
Freshman Chemistry Grade.....	—	.76
Freshman Mid-term Average, Autumn.....	—	.58

Ohio State Psychological Exam and

Revised Johnson Science Test.....	—	.40
Cooperative Natural Science Test.....	.47	.61
Regents Average.....	.51	.41
Freshman English Grade.....	—	.29
Freshman Chemistry Grade.....	—	.59
Total Orientation Score.....	—	-.07
Part Score on Orientation Inventory.....	—	-.15

Revised Johnson Science Test and

Regents Average.....	—	.41
Cooperative Natural Science Test.....	—	.71
Total Orientation Score.....	—	.08
Part Score on Orientation Inventory.....	—	-.10

TABLE 2
Means and Standard Deviations of Entrance Scores in 1947 and 1948

Test	1948 Scores		1947 Scores	
	M	S.D.	M	S.D.
Ohio State Psychological.....	81.82	24.02	83.19	23.65
Regents Average.....	83.50	4.78	83.31	5.19
Rev. Johnson Science Test.....	26.97	6.21	—	—
Coop. Science Test.....	58.33	12.49	59.19	13.43

thus totaled provided scores which correlated $-.22$ with the first-term average. The minus correlation is a function of the scoring method. The significant fact is that the same score correlated $-.07$ with the *Ohio State Psychological Test*. The total score from the *Orientation Inventory* and the *Revised Johnson Science Application Test* correlated $+.08$. When used as a team, the weighted scores of the *Ohio State Psychological Test* and the

TABLE 3
Multiple Correlations Between Various Combinations of Weighted Scores and the Criterion

Scores Used	<i>r</i>
1, 2	.41
1, 3	.43
1, 2, 4,	.46
1, 2, 4, 5,	.60
3, 5,	.61
1, 3, 5	.62
1, 3, 4, 5	.64

1—Ohio State Psychological Test
2—Total Orientation Score
3—Part Orientation Score (Items 3, 4, 6, 9, 11, 14, 17)
4—Revised Johnson Science Application Test
5—Regents Average

Team of Scores Used	Multiple Correlation of Team With Criterion
Ohio State Psychological Test + Total Orientation Score.....	.41
Ohio State Psychological Test + Part Orientation Score.....	.43
Ohio State Psychological Test + Revised Johnson Science Application Test.....	.46
Ohio State Psychological Test + Regents Average + Revised Johnson Science Application Test + Total Orientation Score.....	.60
Regents Average + Part Orientation Score.....	.61
Regents Average + Ohio State Psychological Test + Part Orientation Score....	.62
Regents Average + Ohio State Psychological Test + Revised Johnson Science Application Test + Part Orientation Score.....	.64

Orientation Inventory correlated $.41$ with the first-term average. By adding the *Revised Johnson Science Application Test* to the team, the correlation is raised to $.60$. The Regents Average still correlated more highly with the criterion than any other single variable which can be obtained prior to the availability of mid-term marks, and the *Orientation Inventory* score adds more to that correlation than any other variable included in the study.

A second score was derived from the *Orientation Inventory* after the following manner: A regression equation was made

between the first-term average and the Regents Average. First-term averages were then predicted on the basis of the regression formula. If the actual first-term average was greater or less than the predicted first-term average by five or more points the *Orientation Inventory* for the particular individual was sorted into a corresponding group, i.e., one group was composed of those individuals making more than five points above the predicted score and another group was composed of those individuals making more than five points lower than the predicted score. The responses made on the *Orientation Inventory* by these two groups were then analyzed, as shown in Table 4.

The association between responses made on any particular item and the group the individual is in on the basis of this selection, is indicated by chi square. The probability indicates that a sample given a chi square as high or higher than the obtained chi square could be drawn by chance from a universe in which the true value of chi square is zero. So as not to violate the requirement of not-too-small expected frequencies, adjacent frequencies have been combined in order to avoid expected frequencies under five (3). The responses to the test items and the chi-squares with probabilities are reproduced in Table 4 to illustrate certain of the techniques and basic data used in this study. It is to be understood that the value of these data is limited with respect to the size of the population studied. On the other hand, the groups do represent all of the available cases meeting the requirements posited for representation in that group.

Responses to items 2, 9, 13, 14, and 17 were found to be significantly different between the two groups. Items 3, 4, 6, 8, 11, although not revealing significant differentiation between the two groups, did indicate trends toward significance. Following this analysis, all *Orientation Inventory* forms were scored again by totaling the responses which each individual made to items 3, 4, 6, 9, 11, 14 and 17. Item 2 was omitted because the choices here were set up in the opposite direction from the choices in the other items. This would have increased the difficulty in scoring by the machine method. The correlation between the resulting score (named the part score hereafter in the study) and the first-term average was $-.32$. When the part score and

TABLE 4
*The Orientation Inventory with Number of Responses Made by Students Having Actual
 First-Term Averages Greater Than Five Points Above or Below Grades Predicted
 From Regents Averages*

Question	Number of Re- sponses Made by		χ^2	Degree of Freedom	P η
	Group 1* N = 24	Group 2† N = 28			
1. I feel that my present state of health is					
1. Much better than most people I know.	0	0			
2. Better than most people I know.	6	6			
3. About the same as most people I know.	17	20			
4. Poorer than most people I know.	1	1			
5. Much poorer than most people I know.	0	1	.12	1	.75
2. The average number of hours I spend on work for board, room or cash each week is:					
1. None	13	14			
2. 1-9	1	10			
3. 10-18	6	4			
4. 19-27	3	0			
5. Over 27	1	0	9.70	2	.01
3. Choose the statement which <i>best</i> describes your vocational plans. I have:					
1. A definite specific vocation planned.	10	8			
2. A definite broad field in mind.	10	8			
3. Two or three areas from which I will choose a definite vocation.	3	6			
4. Two or three areas in mind but I am con- tinually changing my mind about them.	1	5			
5. No vocational plans at present.	0	1	4.20	2	.15
4. The average number of hours I spend in fraternity activity each week is:					
1. None	20	15			
2. 1-9	3	9			
3. 10-18	1	4			
4. 19-27	0	0			
5. Over 28	0	0	5.09	1	.08
5. Choose the statement which best describes your study habits with relation to other ac- tivity:					
1. Nothing interferes with my study.	2	2			
2. I occasionally forego necessary study for unrelated activity.	19	23			
3. Other activities interfere with my studies about one-half of the time.	2	2			
4. Other activities interfere with my studies much of the time.	0	1			
5. I am unable to keep other activities from interfering with my study.	1	0	.22	1	.65
6. The average number of hours I spend on sports each week is:					
1. None	11	7			
2. 1-9	10	15			
3. 10-18	3	4			
4. 19-27	0	2			
5. over 28	0	0	2.48	1	.15

TABLE 4—Continued

Question	Number of Responses Made by		χ^2	Degree of Freedom	P [¶]
	Group 1* N = 24	Group 2† N = 28			
7. So far this term I have been ill and have missed classes:					
1. Not at all	19	22			
2. Less than a week	2	5			
3. About one week	1	1			
4. Between one and two weeks	1	0			
5. Two weeks or more	1	0	0.00	1	.99
8. The average number of hours I spend on extracurricular activities <i>other</i> than work, sports and fraternity each week is:					
1. None	5	11			
2. 1-9	16	14			
3. 10-18	3	3			
4. 19-27	0	0			
5. Over 28	0	0	2.09	1	.15
9. Choose the statement which best describes how you feel about your note taking.					
1. Exceptionally neat and efficient—no reorganization necessary.	0	0			
2. Neat and efficient—a little reorganization is sometimes necessary.	13	5			
3. Some reorganization always necessary.	10	18			
4. Considerable reorganization is always necessary.	1	3			
5. Impossible to get my notes well organized.	0	2	7.58	1	<.01
10. So far this term I have gone home:					
1. Not at all	7	11			
2. Once	9	9			
3. Twice	3	1			
4. More than two times.	2	6			
5. Every week or live at home.	3	1	.57	2	.75
11. Choose the statement which best tells how you feel about the curriculum suggested by your faculty advisor.					
1. I would not exchange my course of study for any other.	8	4			
2. I am not eager to change my course of study but I would if it were more practical.	14	16			
3. I would like to change my course of study for another somewhat similar to it.	2	5			
4. I would change my course of study to almost any other course of study which was more practical.	0	1			
5. I would like to change my course of study as soon as possible.	0	2	3.17	1	.08
12. The average number of hours I sleep per night is:					
1. 9 hours or more.	0	0			
2. 8 to 9 hours.	5	8			
3. 7 to 8 hours.	16	17			
4. 6 to 7 hours.	3	3			
5. Less than 6 hours.	0	0	.41	1	.50

TABLE 4—Continued

Question	Number of Responses Made by		χ^2 †	Degree of Freedom	P¶
	Group 1* N = 24	Group 2† N = 28			
13. I review my lecture notes the same day they are taken:					
1. Always	0	1			
2. Almost always	7	2			
3. Occasionally	9	15			
4. Rarely	6	8			
5. Never	2	2			
			8.79	2	<.02
14. Check the statement which best describes how you feel about your present courses:					
1. All of my courses are necessary for my particular plans or purposes in coming to college.	10	0			
2. About three quarters of the courses I am taking seem necessary.	13	7			
3. About one-half the courses that I am taking seem necessary.	1	17			
4. About three-quarters of the courses I am taking seem unnecessary for the purposes I had in coming to college.	0	4			
5. None of my courses appear to be necessary for my purposes.	0	0			
			30.32	2	<.01
15. Choose the statement which best describes how you organize your time.					
1. I am usually able to do a little more than is required of me in my courses.	1	2			
2. I am never behind with my regular assignments in my courses.	13	16			
3. I have all I can do to keep up with the required amount of work.	8	8			
4. I frequently do not have time to do the minimum amount of work required in my courses.	1	2			
5. I never seem to have time to do the minimum amount of work required in my courses.	1	0			
			.24	1	.60
16. The average number of hours I spend on study each week is approximately:					
1. Over 36	1	1			
2. 26-35	10	7			
3. 16-25	11	16			
4. 6-15	2	4			
5. Under 5	0	0			
			1.61	1	.20
17. Before coming to college I had been away from home:					
1. For many long periods of time.	5	3			
2. For a few long periods of time.	10	4			
3. Frequently but not for long periods.	2	10			
4. Rarely for long periods.	7	8			
5. Never	0	3			
			10.15	2	<.01

* Group 1 is composed of those students whose actual average grades are more than 5 points above the average grades predicted on the basis of the Regents Average.

† Group 2 is composed of those students whose actual grades are more than 5 points below the grades predicted on the basis of the regents average.

‡ Chi square, a measure comparing observed and theoretical (as estimated from the sample) frequencies.

¶ The probability that with a given number of degrees of freedom the chi-square value obtained in the comparison of the distribution of the sample with the theoretical series dictate that the sample belongs to or has arisen out of such series.

the *Ohio State Psychological Test* are used as a weighted team, the correlation with the first-term average is .43, compared to .41 when the total score of the *Orientation Inventory* is used. The multiple correlation using the team composed of the part score from the *Orientation Inventory*, the Regents Average, the *Ohio State Psychological Test* and the *Revised Johnson Science Application Test* against the first-term average is .64.

An analysis of the items indicates that motivational influences are important factors in scholastic success. Items 11 and 14 showed wide differences in responses made by the two groups. Both of these items refer to the individual's satisfaction with his present course of study. Items 4 and 6 deal with time spent in a fraternity or in sports. Items 9 and 13 deal with study habits and note-taking abilities. Item 17 deals with the adjustment of the individual. Item 2 might be useful in the part score by reversing the position of the choices. This item when scrutinized shows that the individual who works for his college expenses is probably among the most highly motivated of the individuals attending college. "Time spent" in this item is easily differentiated from "time spent" on fraternity activities (item 4) and on sports (item 6).

Summary

The present *Orientation Inventory* and the results obtained from its use are still inadequate when compared to its potentialities. At present its usefulness is primarily limited to indicating areas which are important for prediction and secondarily for use in prediction formulas. The findings indicate that an extension in the length of the test with items centered about the areas of *motivation*, *adjustment* and *study habits*, in that order of importance, should produce an instrument highly useful in the prediction of scholastic success. Certain observations are important for the development of such an instrument. Not only should the items be relatively objective in the sense that the individual can easily estimate the actual time factors asked for, but the items should be indicative of the area being measured and still should be somewhat disguised as to their real purpose. The ultimate aim in constructing such tests is to discover items which may be used before the individual enters college.

Certain items in the present *Orientation Inventory* may be inadequate because the responses established for the individual taking the test are too broad. For example, one item (item 8) provides categories of a 9-point range. This item might be more discriminating if put on a 3- or 6-point range.

The specific items used successfully in this study represent broad areas of psychological importance. They have proved to be reasonably successful in a College of Agriculture where the required portion of the program is not always what the individual expected it to be. The students were selected so as to eliminate this factor insofar as possible by including only the men enrolled in the college. The success of the items in the *Orientation Inventory*, therefore, may or may not be unique to one college. However, they do provide indications of areas in which further study may profitably be made and in which considerable research is necessary. Studies such as that of May (2) showing the relationship of study hours per week to academic success have been, for some reason, neglected as leads for prediction studies. Although more restricted in scope than the present study they, too, have indicated the importance of motivational influences even though not ostensibly so.

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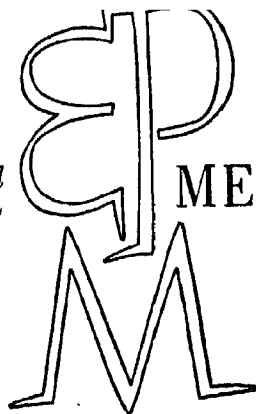
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EDUCATIONAL and
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MEASUREMENT

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EDITOR'S FOREWORD

The annual meeting of the American College Personnel Association was held in Chicago from April 18-21, 1949. The *Proceedings* include all of the papers presented, except for several to be published in other journals as indicated and several instances in which formal papers were not read. Because there were thirty-seven papers this year, and because of printing limitations, the remarks of the discussants are not being included.

As a constituent member of the Council of Guidance and Personnel Associations, our organization participated in the "Council Day" program. In accordance with the theme of the convention, "Achieving Common Goals in Guidance," Chairman Thelma Mills of the Study Commission of the Council of Guidance and Personnel Associations reported on their work for the past year. Copies of this report are available from Miss Mills, University of Missouri, Columbia, Missouri. Other "Council Day" speakers and the titles of their addresses were:

William C. Johnstone, Jr., Director, Office of Educational Exchange, Department of State: *Achieving Understanding Through International Educational Exchanges.*

Claude V. Courter, Superintendent of Schools, Cincinnati Public Schools: *Significant Aspects of Personnel Work in City School Systems.*

Charles J. Turck, President, Macalester College: *Significant Aspects of Personnel Work in a Small Liberal Arts College.*

William S. Carlson, President, University of Delaware: *Significant Aspects of Personnel Work in a University.*

These papers are not included in the *Proceedings*.

Next year's conference will be at Atlantic City from March 27-30, 1950. With a membership now of over seven hundred names, ACPA is looking forward to another successful year of endeavor and progress in the college student personnel field.

C. H. RUEDISILI
University of Wisconsin

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Presidential Address

"THE FAULT, DEAR BRUTUS—"

C. GILBERT WRENN

Professor of Educational Psychology, University of Minnesota

LAST year at the occasion of the annual banquet I discussed certain critical points in the organization and functioning of student personnel work. This year I should like to speak about the personnel workers themselves. This means shifting attention from the job to the person performing the job, and that includes all of us. Any of you who have been sufficiently curious about the title of this address to recall the balance of the quotation will have realized by this time that the topic was addressed to us as people rather than to the job to be done. When Shakespeare had Cassius say "the fault, dear Brutus, is not in our stars but in ourselves, that we are underlings" he was speaking of the larger significance of human existence itself, but it seemed to me that his thought might be applied to this day and age and to us. We are a comparatively young profession and it is common for the young occasionally to raise questions about themselves and their purposes in life. Our youth as a profession is a strength in that it enables us to be vigorous and aggressive and to make mistakes without being too much disturbed by them. It is at the same time a weakness, for we are all too frequently as lacking in consistency and self-assurance as is the adolescent in general.

A logical interpretation of this quotation would lead to the conclusion that I believe that personnel workers are in the position of "underlings." There are times, of course, when each of us is quite sure that he is an underling, subordinate to far too many people, but it is not my belief that the profession is now in a position subordinate to that of other educational specialties. I think we have grown out of our swaddling clothes, that personnel work is a distinct personality in the family of professions. Personnel work never was an unwanted child for it was born of

a need, a need well recognized by both students and administrators. It is true that some of our relatives, our academic aunts, uncles, cousins and the like, have raised their eyebrows at us, but we are now a member of the family, whether always approved or not, and we are here to stay. So I am not going to use the latter part of the quotation too frequently, for I do not think it applies. I am, however, suggesting that certain faults in the performance of personnel work lie within us as individuals and that we might examine these and learn a bit thereby. There is a certain danger in thus cataloging faults, but I shall have to risk your displeasure. Sir Walter Raleigh well expressed both the danger and the need: "Thou mayest be sure that he that will in private tell thee of thy faults, is thy friend, for he . . . doth hazard thy hatred; there are few men that can endure it, every man for the most part delighting in self-praise, which is one of the most universal follies that bewitcheth mankind."

Compensations for Lack of Assurance

Our very lack of assurance, of course, is one of our greatest faults. We are too young to be a science and not old enough to be a tradition. We are on the way toward accumulating a science of practice, and certainly psychology upon which we depend can be considered a young science, but upon the whole we cannot stand out in an academic gathering with the assurance of the natural scientist, nor yet with the complacency of our older academic relatives, such as literature, history or the languages. In many a social gathering I have seen this lack of self-assurance upon the part of the college personnel worker. It is often evident in one of the two familiar patterns in which defense behavior is expressed. When we are defensive against questions that we cannot answer, accusations about which we think there may be some truth, or in the presence of such ignorance of our work as to give us doubt that it is as important as we thought it was, we are apt to respond with either belligerent behavior, on the one hand, or apologetic behavior on the other. Both, as all psychologists know, are expressions of the same sense of inadequacy.

A belligerent pattern is frequently expressed in an overselling of personnel work. This is done by claiming more for student

personnel work than it can legitimately perform or by claiming outcomes for personnel services for which no proof can be offered. This pattern of behavior is common for the younger members of the profession who have not yet learned the limitations of the work in which they are engaged. Nor have they learned that such over-salesmanship is resented by professional colleagues with whom personnel people must work cooperatively. "It is better to remain silent and appear a fool, than to speak and remove all doubt." One does not have to be too boastful about one's self or one's vocation to assure the other person that either the person or the vocation is significant. As a matter of fact, such boastfulness is often interpreted in inverse ratio to the real work of the topic under discussion. It has been said that the less a man knows, the louder he talks. If he had full belief in the validity of his case, belief that his facts spoke for themselves, he would not need to raise his voice. "The weaker the argument, the stronger the words." This same belligerency is sometimes revealed in an over-sensitiveness to criticism of one's vocation or of one's own part in personnel work. It is again well known that the over-sensitive person is merely revealing his basic insecurity. One of our problems in this area is that we are not well enough assured of the really valid and stable contributions of our vocation so that we can readily take criticism of the many aspects of our work that justify criticism.

The opposing attitude, that of apologetic response to criticisms or discussions of our professional field, is perhaps even more reprehensible than the belligerent attitude, for, in so being apologetic, we are betraying both ourselves and our profession. We have nothing to apologize for in spite of the fact that we are doing many things poorly. We should make known that we are engaging in a work so complex that we shall never perform as well as we should like to do. We must admit failures and weaknesses and at the same time be proud of certain achievements and basic concepts that will stand up under the most rigorous examination. If we do not have this attitude ourselves, how can we expect our colleagues or the public to adopt an attitude of respect for the thing which we are doing?

I well remember Dean Harold Benjamin some years ago speaking of the fact that until teachers held their heads up and stuck their chins out and said "I am a teacher and proud of it" that the teaching profession would never get the respect from the public that it deserves. With this I heartily concur. We are concerned about the reactions of others to our work, but public reaction is in part a reflection of our own estimate of our social significance. David Lilienthal, Chairman of the Atomic Energy Commission, was recently quoted as saying: "It would seem to me that one can, in a rough way, assess the chances that a people or a nation will be able to keep its strength and preserve its freedom by noting the importance and prestige its people attach to teachers and to education." We must start that, it seems, by attaching importance not to the quality of what we are doing, but to the *significance* of the job to be done. Furthermore, as I have said, there is much more to be proud of than we have sometimes admitted.

One can honestly say to young people that society, and in particular teachers and parents, has done too good a job of making them aware of their liabilities and weaknesses. Perhaps we, as a young profession, are in the same category. There is no reason for us in personal conversations with colleagues or in professional meetings to be other than realistic about the work that we are doing. This realism consists, in part, of admitting our weaknesses, but, also, in stating our strengths. We have many more strengths, as a matter of fact, than some of the academic disciplines that have prestige because of long life. Age does not necessarily bring wisdom. In America we venerate old people for what they are, or what they have done, not because they are old. For this reason I propose that we accept ourselves as a young profession with much to learn, but at the same time that we consider it unnecessary to be either belligerent or apologetic about the significance of our work. Let it speak for itself—with some assistance from us! And, most of all, let us accept gracefully criticisms of our personal part in the performance of personnel work without puffing up our dignity in pouter-pigeon fashion or exhibiting more obvious signs that our feelings have been hurt.

Fatigue and the Blunting of Sensitivities

A second psychological problem of personnel workers is the strain upon the individual of constant contact with human beings. No one but teachers and individuals in similar human relations occupations appreciate the drain made upon nervous energy by the daily routine. For many people, those in the academic field have a soft life. We know differently. The only trouble is that we know it in such terms that it frequently cannot be understood by anyone outside of our own field. I am not claiming uniqueness of effort for any purpose of self-pity, but drawing attention to the effect of this constant contact with people and their troubles, decisions that must be made in terms of human reaction rather than objective fact, the necessity for constantly shifting in terms of the various personalities whom we meet from time to time throughout the day, the necessity for attempting to see beneath the surface and to infer attitudes and conflicts from exterior behavior and verbalization. These, and other conditions of our work, cause us to suffer a kind of nervous fatigue unlike that experienced in most other fields.

This fatigue leads to a peculiar danger of personnel workers, the adoption of a kind of surface defense to protect us from the results of fatigue. This mask frequently results in a blunting of our sensitivity to intimate human reactions. Administrators are more often accused of this than are counselors or teachers. I think the accusation is probably unwarranted, for the same blunting of sensitivity may be expressed not in brusqueness, but in inattention or insensitivity which is revealed by a wandering of the counselor's gaze, or the wandering of his mind, or in preoccupation with superficialities because he is too tired or too lazy to deal with the fundamental human dynamics involved. In any event, it is a problem which most personnel workers will readily recognize. The solution rests within ourselves and our own program of personal mental hygiene. It rests with our own program of conserving our energies so that the more important things can be handled adequately. The most important thing is the reaction and the growth of each individual human being with whom we deal.

One of the solutions in this connection is for us to become less concerned with paper work and less concerned with personal prestige than we are with the significance of the behavior of the persons with whom we deal as professional workers. It is not easy to ignore a crowded desk and a crowded schedule, to appear at ease and wholly absorbed in the self-revelations of a given individual, whether a student or colleague. It is not easy, but it is *essential* if we are to fulfill our highest obligation as personnel workers. All that we wish to do may be harmed irreparably if we establish a reputation of being too busy to see individuals with personal problems or too brusque and decisive whenever we do see such individuals.

If we are crowded at our office by people who wish to see us and if we, at the same time, must get out certain correspondence or perform other essential tasks, then perhaps we should perform these other tasks away from the office, so that our office time will not be jammed with affairs not connected with personal relationships. I find that a couple of hours in the early morning before regular hours begin is a great boon for correspondence and paper work. The telephone is the biggest source of irritation and frustration to both the personnel worker and those who see him as clients. Some method should be worked out by each individual wherein the phone does not interrupt during the heaviest interviewing periods. If we are truly to act as counselors, whatever our personnel title, then we must give every indication that our primary concern is with the individual who is consulting with us. And in order to do a good job of dealing with that person's needs, we must give our undivided attention to observation of what might be called the clinical signs of behavior. To allow ourselves to be licked by the human fatigue factor, to become insensitive to the nuances of human behavior, is to lose our distinctiveness as specialists in human behavior and human need.

Self-Glorification

There is a third danger, a temptation to which all personnel workers, particularly those who counsel with students and younger people, are peculiarly subject. This is the temptation to become smug and superior in our attitudes toward others.

Because the other person comes to us for help and because we try honestly to help him, we are apt to feel pretty good about ourselves, a little like Jehovah and his children. The client is grateful and we have seen him, but we should not take particular satisfaction from that reaction. Being bluntly realistic, it is our chosen task to help people and there is no particular merit in our doing so. All of us like love and admiration from others, although sometimes we ask for it a little too obviously. When the student or the client gives us gratitude and affection, deserved or not, we are apt to glorify ourselves a bit, although we would not admit it to anyone but ourselves! This is what Wyatt speaks of in a recent issue of the *Journal of Consulting Psychology*¹ when he states that the counseling situation "contains great potential gratifications, involving corresponding risks of frustration and anxiety or indulgence and delusions of omnipotence." He goes on to say that "the higher smugness is actually the major vocational disease-risk of the therapist, whether it finds expression as that angelic air of patience and forbearance in the face of whatever neurotic naughtiness the other person is liable to, or that pointed superiority which has the answer to all the questions." He believes that it is hard to see how good psychotherapy can be performed without adequate self-insight by the counselor. This means a realistic awareness of the dangers of self-indulgence and self-gratification.

One way to keep one's self from this particular psychological temptation is to constantly remind one's self of the social obligations and social aims of personnel work. Our job is to help individuals become more effective and integrated members of their current society. The fact that they are grateful for our helping them in this regard is of little moment. The real point is that it is our job. If we are completely honest we will admit that what we do for others is seldom done as well as we should like or well enough for us to feel complacent about it. Another thing to consider is that much of the value to the student comes from his own reactions to himself rather than from anything that we have done. The very act of coming to a counselor is a favorable prognosis. Some of the values of the counseling ex-

¹ Wyatt, Frederick. "The Self-Experience of the Psychotherapist." *Journal of Consulting Psychology*, XII (1948), 84-85.

perience are almost completely independent of our personality or of our techniques because they are involved in the client's decision to consult a counselor. I am increasingly convinced that we have placed too much stress on techniques and not enough upon the interaction of the two personalities in the counseling situation. The interaction of these two people may bring a considerable degree of the benefit to the counselee without regard to what either one may have consciously done or of the particular techniques employed by the counselor. The student *may* have benefitted in this way—we do not know that he did. In fact, so little is known of *how* counseling benefits others, that all of us who counsel would do well to take little credit for ourselves.

Discouragement

Now to look at a fourth psychological problem, one previously suggested by Wyatt. This is the opposing danger of self-disparagement and discouragement over the enormous complexity of the human problems faced by any personnel worker. Here I am speaking not only of counselors who spend most of their time dealing with students, but of personnel workers who counsel with colleagues or who are responsible for colleagues in their own institution. Because we have the title "personnel" attached to us, it is assumed that we are interested in people and their welfare, and, for this reason, many problems come our way which are not necessarily those of a student-counselor type. If our interest in people is a thoughtful interest, we are frequently discouraged at the enormity of the need, on the one hand, and the smallness of our possible contribution, on the other. Of course, we frequently expect too much of ourselves. We frequently forget that growth in any essential characteristic takes time and that no one or two interviews are going to change a person's life unless we can assume that certain dramatic cases that have been publicized in literature are common occurrences. We frequently become emotionally involved in the client's problems and identify ourselves closely with him. In this we lose one of the great advantages of a professional counselor, his ability to remain objective and neutral in spite of the client's perturbation.

We must constantly tell ourselves that the goals of counseling

are limited and that we cannot remake a person's life. We merely assist him in one connection. We furthermore must know that what we are trying to achieve is a process of re-education of the individual, that is, helping him to re-educate himself. This is not done quickly. It takes time to translate a change of attitude into a change of behavior. If we are realistic about ourselves and our job we will not assume that we are going to make great changes in a person's life, and we will, therefore, not be discouraged over a lack of achievement. The counselor is but a tool or a catalyst in the life pattern of the individual with whom he is dealing at the moment. Many other factors are present; he is but one. He can neither take credit nor blame for all that happens.

Perhaps one of our peculiar liabilities arises out of this limitation. This is the liability of never actually feeling mastery over situations. The intricacies of human nature are so great, the bulk of what we do *not* know is so large, the rapid growth of new knowledge so perplexing, that we never seem to feel that we are doing a complete and thorough job in any of our human relations responsibilities. One of the perplexing things for those of us who have been in the field for some time is that the thing which we once thought right is now considered wrong, or is, perhaps, *proved* wrong. This, of course, is not unique to our field of endeavor. It is true in medicine and many other areas, but it seems to hit us with peculiar force. We are, of course, still top-heavy on the theory side of our work, and for this reason can easily be swayed by new concepts which seem to indicate that our previous thinking has been wrong. These concepts frequently lack proof. We must guard against being too disturbed by new ideas until we can find evidence to support those ideas. This is not to suggest that we should not willingly change. We must change, and readily, but let us not be too disturbed about rapid change because really justifiable change demands evidence. We can sometimes say, "That's an interesting thought; perhaps I was wrong. I will proceed more cautiously, but I won't accept this as new truth until I see the evidence for the new point of view." I think this matter of never feeling complete mastery over a situation or never feeling that we are right without equivocation is one of the penalties of dealing with intricate human behavior. We must simply live

with this particular liability. We will probably never dispense with it.

Strain of Indecision

Another of our peculiar problems is that of being so frequently undecided as to the best course of action. The strain of indecision dogs the steps of all, of course, who deal with decisions which are important in human lives. Psychological counseling and any of the professional personnel functions that deal with human decisions are particularly subject to this strain of indecision and for a specific reason. Our problem is always that of "how far shall we go in transmitting to the other party our convictions with regard to his best course of action?—how far shall we attempt to load the dice in terms of a particular alternative by the way in which we discuss the alternatives or by our very tone of voice?—how far shall we simply keep quiet and allow the individual to work through completely on his own?" If we know something about the individual which may be either advantageous or discouraging, what shall we tell him of this and how shall we tell him? What will be the affect upon him of this method of presentation as opposed to that? These are the questions that trouble us and bring about, it seems to me, an unusual amount of strain upon the part of those who are conscientiously trying to work with individuals in terms of facilitating the process of growth within the individual himself. We may know what is best for the student or best for our colleague, but our knowing it will never solve the problem for him. The real situation is solved only when the individual concerned finds for himself a resolution of conflict, a best way out, a changed attitude.

Indecision as to the best course of action is a great strain upon our own emotional maturity and our own sense of balance. It is a test of our objectivity regarding the other individual, our complete self-abnegation or selflessness, our ability to exist without any ego-support from the counseling situation.

The Temptation of Authority

In speaking tonight of the personnel worker, I am stressing the point that he or she is, without question, the most important element in the personnel program. Henry Murray has spoken

of "psychology's forgotten instrument—the psychologist." Rapaport² lists four factors essential to the understanding of diagnostic information: the basic personality theory that is held, test rationale, familiarity with previous research, and the self-knowledge of the counselor. He writes that "the richest source book of psychological understanding is carried by the individual within himself," that through a process of self-examination and heightened self-awareness as an instrument in the psychological process, we can develop greater sensitivity to the meaning of information about human behavior. All of this is just as true about the personnel administrator. About one-half of the membership of ACPA is classified as personnel administrators, and certainly they have no more important function than the consideration of the personnel worker, his qualifications, his welfare and his progress. If the personnel administrator gets too much engrossed in programs and forms, in public relations and budgets, he misses his chance to make his greatest contribution to the personnel work of his institution—the development, encouragement and support of the personnel workers subordinate to him.

Administrators, as such, have rather distinctive psychological problems. In the first place, many administrators such as Deans of Men, Deans of Women, or Deans of Students, actually have authority over the lives of students, and the temptation is to use that authority in ways that will facilitate a given situation but which may not necessarily be best for the student concerned. You and I have known administrators who were quite arbitrary in dealing with students. Having the authority, they used it partly as a source of self-gratification and partly to make things move smoothly as far as the institution or the group was concerned—but all to the disadvantage of the individual student, all to a retardation of his growth and a sense of resentment upon his part.

Part of this arises from the administrator's tendency to look at the outcomes of programs rather than at the outcomes in the lives of individual students. Part of it may come from the fact that he is frustrated at times in dealing with his colleagues

² Rapaport, David. "The Status of Diagnostic Testing." *Journal of Consulting Psychology*. XII (1948), 4-7.

or with his superiors in the academic organization, and this frustration leads to arbitrariness with students or with subordinates, the only people with whom he can be arbitrary. Our most dangerous time in dealing with individuals who are in any sense subordinate to us is just following some frustrating experience upon our own part. The phenomenon of projection is too well known to demand emphasis here, but it is not too readily recognized by the person exhibiting the mechanism. I am convinced that students who have come to me with a bitter recital of treatment from some personnel administrator had suffered because that administrator himself had just been treated rather harshly by someone else or by certain circumstances in life. The reason for his treatment of students was easy to see, the justification for it not so easy to see. Administrators are supposed to take the raps, but they are not supposed to pass them on to those under them. This is a peculiar temptation of anyone who stands in positions of responsibility.

The administrator may be engrossed in a complex program, but he cannot forget that impersonal manipulation of staff personnel, no matter how immediately helpful to program development, will only result in lowered morale for these and *every other* staff member who hears about it. The tolerance of leader domination of group activity seems to increase with the size of the group, as found by Hemphill in the Ohio State study of leadership, but even here the efficiency of result may decrease in spite of tolerance. The power factor, the authority complex, the advancement of program at whatever cost to staff security, is the worst and riskiest kind of personnel administration.

There is excellent argument for an emphasis upon a clear-cut line-and-staff organization of the student personnel functions and staff of an institution. The administrator in higher education must remember, however, that he is dealing with individuals on a staff who are often not his intellectual or professional subordinates, but his colleagues. They are as competent as he in their respective fields and are his intellectual equals. For this reason, he cannot be arbitrary with them or he loses their greatest value to him and to the institution. In policy making and in the initiation of new ideas, they must work *with* him and not *for* him. I have written elsewhere "... the student

personnel program should operate under policies established by an agency representing the administration, faculty and the students," and "Student personnel procedures do not function well under an administrative *fiat* arrangement."³

Misinterpreting the Administrator's Relationship to his Staff

Another problem of administrators is their frequent failure to recognize that in dealing with the staff they are *not* dealing with students but are, at the same time, responsible for people who have common human need for counsel and encouragement. For some curious reason, most people like to move from teaching or counseling positions into administrative positions. The prestige factor is an important one in a decision to assume administrative responsibilities as is the realization that certain things could be done with the program if the individual had more control. When this move is made, however, the thing which is frequently not realized is that one must change within himself when he changes from teaching or counseling to administration. He or she has far fewer contacts with students, and the people who take the place of students in his life are the people who work with him and for him. They should be treated with the same consideration and with the same psychological carefulness that he has been accustomed to use in dealing with students. Now he is engaging in a process of *adult* education and counseling. He is responsible for staff intellectual and emotional growth, their independence, their morale. Williamson⁴ states that "developing counselors" is one of the three major objectives of a program of supervision of counseling services. He writes, "The counselor, himself, is as often as much in need of counseling as the client is, and any administrator that forgets that is not a good administrator." ". . . in administration we almost refuse to do for the doctor what the doctor does for his patients." Such psychological blindness is not worthy of administrators in such a human-relations function as the administration of student personnel services.

Perhaps it is hard to be both an administrator and a coun-

³ Wrenn, C. Gilbert. "The Administration of Counseling and Other Student Personnel Services." *The Harvard Educational Review*, May, 1949.

⁴ Williamson, E. G. "Supervision of Counseling Services." *Journal of Consulting Psychology*, VIII (1948), 297-311.

selor. Dean Clifford Houston, in writing to me of the work of his Committee on Professional Standards, makes the following observation: "One does not draw conclusions from so few cases, but it is becoming very obvious that the personal and professional qualifications of a good counselor are not *always* identical with those of a good Dean of Students. Leadership and persuasiveness are very important characteristics for the latter. On the other hand, the careful research type of psychologist might find it difficult to become a real influence with the interfraternity council." I might add that we really expect a great deal of the personnel administrator!

If the personnel administrator states that he is concerned with the morale of the *students* in his institution, he must first be concerned with the morale of the *staff members* who deal with those students. His primary responsibility is to his staff and through them to his students. This is not an easy thing to accept, particularly if one likes to deal with students. One is apt to relegate staff to a position of subordinate responsibility, but this the administrator cannot and must not do. It further follows that too frequently the administrator, because of his position and varied responsibilities, becomes insulated from student life and student thinking. He is unwilling to admit this, and all too frequently speaks of student reaction in terms of student reaction at the time when *he* was dealing intimately with students, not student reaction as it may exist today. He must depend, therefore, much more heavily upon the reaction of his staff, because they are the ones who are dealing with students hour after hour and day after day, and may know more of student reactions than he does. He must depend upon these staff people for their interpretation of student needs. Yes, the administrator has difficult enough problems in terms of developing his program and keeping his various bosses satisfied, but that is nothing to the problem he has in dealing adequately with his staff.

I have said nothing here of the difficulty faced by the personnel administrator by virtue of student reaction to his title, whatever it may be. This is serious enough in the case of the "Dean," for this word carries with it a connotation of authority and officialdom that the personnel administrator would like

very much to avoid. This is a problem, to be sure, but it is in no sense as serious as the one I have earlier mentioned, namely the difficulty the personnel administrator has within himself in terms of how he actually treats students now that he is an administrator, and how much importance he assigns to his relationships and responsibility for staff welfare.

Let me recount what I have been saying. I have suggested that college personnel workers face such psychological problems and temptations as the following:

1. The exhibition of compensatory behavior because of a fundamental lack of assurance of the status of personnel work, particularly such compensatory patterns as belligerency and cockiness on the one hand and an apologetic attitude on the other.

2. A blunting of one's psychological sensitivities because of constant and repetitious human contact.

3. The tendency toward smugness and self-glorification because of client dependence and gratitude.

4. The opposing danger of self-disparagement and discouragement because of the complexity of human behavior.

5. The liability of the strain of indecision and uncertainty as to the most constructive course of action in dealing with a client or staff member.

Among administrators I have suggested:

1. The temptation of over-using or misusing authority because attention is placed on program outcomes rather than on the process of growth in a person.

2. Forgetting that the administrator's chief responsibility is toward his staff and through them to students.

This might sound as though I were overly aware of psychological problems in the life of the personnel worker. Perhaps what I have been doing is reflecting the problems in my own life at various stages in my development, and I may have had more difficulties than the average person. There seems to be some basis, however, for believing that these problems and temptations of the personnel worker are common to many. What, then, can be done about them? Is there anything that could be suggested that would help point the way for a personnel worker to become more effective in dealing with these intimate psychological factors in his life?

Mental Hygiene for the Student Personnel Worker

One might use a basic approach and examine the factors that *cause* tensions in our lives. This has been ably done by Lewin in several of his brilliant essays collected under the title *Resolving Social Conflicts*.⁵ But I will only refer you to Lewin and will not attempt to even be scholarly enough to discuss his contribution. This would be a bit aside from the simple purpose of this paper. Such detours are not popular. A visitor from Scandinavia arrived at Salt Lake City delighted with his rapid trip thus far. A friend asked "How were the roads, Hans?" "Val, dis man Lincoln was a great highway engineer. But dat Frenchman deTour, he was no road-builder at all."

If it is not presumptuous, let me suggest some simple rules of mental hygiene that may be appropriate to each of us as personnel workers. These suggestions are for me even more than for you. All of you remember the two small boys who were bristling up to each other in rooster-fashion. One was quite capable of bringing out a long string of insulting remarks. The second boy remained quiet and broke in only when the first had paused for breath. He remarked only this, but it took the wind out of the other's sails! "All them things you said about me, you is, 'cepting they goes *double* for you." So all those things I say about personnel workers, and all of the suggestions I make about mental health, go double for me.

The first thing to suggest is that we attempt to have fun from our associations with people. I feel that sometimes we take people, and their relationships to us, too seriously. We become involved in what they think of us, or become involved in their troubles, and much of the actual joy of human companionship is lost. All of us know people who are casual and relaxed in their relationship with us and we enjoy being around them. All of us know people, on the other hand, who are so tense in their attempt to promote their personal programs that we are unhappy around them. Perhaps we could adopt a principle that we might *learn* more from others and *instruct* them less frequently. This would put us in a different relationship to many people, particularly our clients and our associates. None of us should have entered the field of personnel work unless we

⁵ Lewin, Kurt. *Resolving Social Conflicts*. Harper and Brothers, 1948. (See especially pp. 89-90.)

had enjoyed constant personal contact with people. This enjoyment may have been evident in the beginning, but now some of us have become so engrossed with programs, public relations, publications, and promotions that the joy we once had from simple human contacts has been greatly diminished. When this has happened, we become less effective in all of our personal relationships. People enjoy less being around us, since we enjoy less being around them. Any uniqueness we may have had as far as understanding and sensitive personality is concerned, has been merged in the common pattern of personal ambition and drive. I suppose that one way to put it is to say that many of us take ourselves too seriously and in this engrossment of self we miss much of the pleasure of life.

A second point is that we should recognize our fatigue points and deliberately avoid any extensive contact with people once that point has been reached. We certainly are not effective after we have reached this fatigue point. It is at this time that our voices become sharp, our attention wanders, our patience with the slow progress of others falters, and our effectiveness drops to the vanishing point. This fatigue point will be different with each individual. All of us know that various fatigue studies have indicated high fatigue points at about 11 o'clock in the morning and 4:00 in the afternoon. This, of course, is for people who keep regular office or factory hours. For others, the fatigue point may come either earlier or later, but it is our personal problem to select our own fatigue point. Furthermore, we must learn to recognize the symptoms of that approaching state of tension. Perhaps only a brief respite is necessary to reduce the fatigue and tension. For some this respite is in a candy bar. Others read something light, and still others will look out the window. Someone else may stretch for a few seconds or take a deep breath. All of these have a combined effect of releasing our physical tensions and at the same time bringing new associations into our intellectual existence. We break the synapse, so to speak, of well-established paths and by this process apparently reduce our tension level.

A third suggestion is that we stop setting up impossible goals for ourselves in terms of the amount to be accomplished each day. If we plan on *less* than we actually expect to do each

day, the unexpected things that always arise will fill in the chinks of our time without strain. We almost *always*, on the contrary, plan on more than we can do and then feel frustrated and unhappy because the impossible has not been accomplished. We could stop making dates for all of our spare time weeks ahead, knowing that other demands on our time will be made between now and then and we will feel obligated to keep the previously made dates as well as to add new ones. If, for example, we know that we can make outside trips or speeches twice a month without strain, we could develop a habit of making only one date a month as far as two months in advance knowing we would always have some requests later that would take up the second date. There is not time here to discuss the interesting psychological mechanism that impels us to set up these impossible time schedules, but set them up we do. They are certainly not good for ourselves and not good for the people with whom we are in social contact.

A fourth possibility is a habit of blocking out a small amount of professional reading each day and thereby reducing the feeling of frustration that we develop because we are not making professional progress. Most of us know that we have several hours reading ahead of us each day and seldom get more than a fraction of it done. Our journals pile up. The books that we have to review become older month by month. Our professional writing suffers and even our correspondence periodically goes to the dogs. We could block out a schedule of one-half hour a day of professional reading and strictly observe that minimum. By this procedure we would be making slow but steady progress on a schedule that we could actually accomplish. This feeling of frustration because of professional matters leaving us behind is one that we can lick, but not on an impossible perfectionist basis that most of us dream about.

The fifth point that I should like to suggest is that we deliberately practice small courtesies in our relations with other people. In the first place, it is easier on others and will pay large dividends in social effectiveness. In the second place, by practicing these small social courtesies, we are actually demonstrating that we believe in the integrity of each human personality with whom we deal. This point is not easy to express, but I am

trying to say that if we practice courtesy and consideration for the welfare and dignity of the other person in small affairs, then it will be easier for us to measure up to our ideals in major human relationships. Courtesies in crowded traffic, in stores, in restaurants, or remembering birthdays and personal honors that have come to our friends seem small indeed, but it is of such small incidents that our major patterns are made. Many of us preach a high-sounding social responsibility, but actually live in a niggardly fashion as far as our day-to-day social contacts are concerned.

Finally, I would like to suggest that we should remember that ultimate values persist regardless of what happens to our personal lives. Things that we believe in, that have permanent significance, do not change no matter how much the world about us seems to deteriorate. We may be personally in a minor position and we may suffer in comparison with others. We may have little in the way of goods or money. Prices may go up, and our state legislators may rob the schools to pay bonuses to veterans and pensions to the elderly. The United Nations may lose its prestige and we may have grave fears about our policy with regard to the atomic bomb. But in the face of all these, certain basic values do not change. Human rights and dignities, the integrity of each human personality, the warmth of love and friendship, the beauty of the earth, the eternal significance of the spiritual,—these things endure. The physical and the political world about us may cause suffering of body and mind, but the things of the human spirit do not die and it is with these eternals of human life that we must be concerned if we are to live up to our high calling as specialists in human relationships and as trustees of human values.

PERSONNEL SNAPSHOTS—SIGNIFICANT DEVELOPMENTS ON THE NATIONAL LEVEL AFFECTING STUDENT PERSONNEL WORK

A. J. BRUMBAUGH

Vice President, American Council on Education

THE interest of the American Council on Education in student personnel services throughout the years is clearly reflected in its publications, its special projects, and in the activities of its Committee on Student Personnel Work. Inasmuch as previous reports have been made on these various interests and activities, this statement is confined to recent and current developments that are assumed to be of special interest to this group. Among the Council's publications directly related to personnel work are the following:

1. *American Universities and Colleges* and *American Junior Colleges*. These are new editions of volumes that have been published regularly at four-year intervals, with the exception of the 1944 edition which was omitted because of abnormal conditions affecting higher institutions during the war. They are designed to provide up-to-date information about accredited higher institutions for the use of high-school Guidance Officers, Directors of College Admissions, College Counselors, administrative officers or faculty members, and of business and industrial personnel officers who have need for special information about colleges and universities. The growing demand for this information is indicated by the fact that within approximately 12 months more than 11,000 copies of *A.U.&C.* and more than 6,000 of *A.J.C.* have been distributed.

2. *Universities of the World Outside U. S. A.* This is a new undertaking. It is a direct outgrowth of the rapidly expanding program of international exchange of students, teachers, and research scholars. Many individuals and agencies expressed to the Council an urgent need for a handbook on institutions in other countries comparable to the volume, *American Uni-*

versities and Colleges. The project was undertaken only after a thorough-going investigation of the need for such a volume and of the feasibility of preparing it. The Carnegie Corporation regarded it to be of sufficient importance to make a substantial grant toward its preparation. It will contain full descriptive exhibits for more than 700 post-secondary institutions throughout the world and additional briefer listing of 1400. The publication date is January 1, 1950.

3. *Brochures.* I shall not take time to pay a greatly merited tribute to the Council's Committee on Student Personnel Work and its various subcommittees that have given valuable time and service in the preparation of brochures and the exploration of problems in the field of student personnel services. The brochures which have been prepared by the Committee are widely used for the in-service training of counselors, as source materials for graduate students preparing for personnel work, and by administrative officers in organizing and evaluating their personnel programs. The brochures recently published or currently in process of publication are:

The Teacher as Counselor (1948)

Graduate Training for Educational Personnel Work (1948)

Helping Students Find Employment

Predicting Success in Professional Schools

Student Personnel Point of View (revised)

Other special Council projects that are directly in the field of personnel work or closely related to it are these:

1. *The Advisory Service on Student Personnel Work.*—Reference has been made at previous meetings of this Association to the arrangement whereby with the aid of a subvention from the Hazen Foundation the services of Consultants on student personnel problems and programs are available to colleges and universities at their request. No extensive publicity has been given to this service because the number of requests in response to two brief mimeographed statements sent out in the last three years has been greater than could be provided for within the personnel and resources available.

During the present academic year Consultants will have visited between 25 and 30 colleges and universities. Ever mind-

ful of the possibility that the net results may not justify the expenditure of time, energy, and money involved, efforts have been made to evaluate this program. Presidents and deans have been invited to comment either in conferences or by letter. A special meeting of Consultants and the Subcommittee in charge of the program was devoted to a critical appraisal, and an analysis has been made of the written reports submitted by the consultants for the purpose of discovering points of greatest concern to the institutions and the most effective methods employed by the consultants. To attempt to summarize the tentative conclusions arrived at by these several procedures would require far more time than I have at my disposal. Suffice it to say that this has been a vital educative process for the consultants as well as for the institutions.

Whether this Advisory Service will be continued beyond this year remains undetermined.

2. *Factors Affecting the Admission of High School Seniors to College.*—The subject of discrimination against minority groups by colleges and universities is being widely discussed. The Council's exploration of this problem was focussed on the difficulties that qualified high-school graduates in minority groups encounter in gaining admission to college. It took the form of a careful sampling and interview procedure among the high-school graduates of the academic year 1947-48. The results of this study are now published, so I shall not undertake to summarize them.

3. *Study of Disabled Veterans in Colleges and Universities.*—This study was initiated about two years ago at the request of the national organization of the Disabled American Veterans. Periodic reports have been published of the findings as the study progressed. These reports have contained a number of conclusions that are especially pertinent to counselors and personnel officers in higher institutions. A final report is in the process of preparation and will be published shortly.

4. *The Impact of Veterans Counseling Centers on Student Personnel Services.*—Inasmuch as the report of the study made by Dr. Mitchell Dreese under the Council's auspices has already been made at this meeting of the American College

Personnel Association, it is unnecessary to go into any detail about it. The subject is a timely one, and the Council was gratified to find that Dr. Dreese had a special interest in it and had some free time which he generously gave to the study without compensation. It is our hope that his report may be the means of creating further interest on the part of institutions in conserving the beneficial elements of their experience with the veterans counseling centers.

5. *The Conference Board of Associated Research Councils.*—The American Council on Education is not the only national organization concerned with personnel problems. The Conference Board just referred to is composed of representatives of the American Council of Learned Societies, the American Council on Education, the National Research Council, and the Social Science Research Council. One of the problems of special concern to the Conference Board is the impending deficit in professional manpower and the resources in our high-school and college population for supplying this deficit. Several preliminary studies have been made to identify the data available on aptitudes of high-school graduates and college freshmen, to determine the level of aptitude required for successfully pursuing advanced graduate study, and to identify sources of information about highly qualified professional personnel. A much larger project for the purpose of pursuing these and other issues further is now pending. It is needless to say that these issues have direct and far-reaching implications for counselors at the high-school, college, and graduate levels.

6. *Contracts for Research on Scientific Naval Personnel.*—On the initiative of the Office of Scientific Personnel, Office of Naval Research, the Council has undertaken, under contract, several important research projects that lie directly in the personnel field. These projects relate to such special subjects as job analyses to determine the kinds of competences required for research positions in the Navy; the characteristics of productive scientists; the development and selection of instruments to measure scientific aptitudes; the construction and validation of recommendation forms for scientists; management of scientific personnel.

All of these studies have direct implications for procedures and counseling, selection, and placement of individuals in our colleges and universities who look forward to positions involving research and leadership.

This catalog of activities, while not exhaustive of all the projects that have a bearing on student personnel work, will be sufficient to indicate the Council's deep interest in this field and the directions in which these interests are being pursued.

PERSONNEL SNAPSHOTS—SIGNIFICANT DEVELOPMENTS IN THE VOCATIONAL REHABILITATION PROGRAM AFFECTING STUDENT PERSONNEL WORK

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SIGNIFICANT developments which have taken place in the vocational rehabilitation program are so numerous, and cover such an extensive range of subject matter, that it is exceedingly difficult to select those which might be of the most interest to this group. I have limited myself, therefore, to those which are quite general and might be presented within the limited time available.

Vocational rehabilitation of disabled civilians is perhaps one of the oldest publicly supported guidance or personnel programs. Beginning in 1920 the program provided disabled persons of employable age with guidance, vocational training and placement services as a means of preparing them to become self-supporting and useful members of society. It is obvious that with such a limited variety of services only a selected portion of the physically disabled could be prepared for and absorbed in the labor market. Recognizing the limitations inherent in the original program, Congress in 1943 enacted certain amendments which authorized the provision of "any services necessary to render a disabled individual fit to engage in remunerative employment." Briefly these include medical, psychological and psychiatric evaluation; guidance; personal adjustment; pre-vocational and vocational training; placement; and under certain conditions medical and psychiatric care, surgery, hospitalization, subsistence, transportation; occupational tools, licenses and equipment. In addition to increased financial support for the program, the disabled were defined to include the mentally as well as the physically handicapped.

My purpose in identifying these services is to indicate that the vocational rehabilitation program for disabled civilians has been developed to the extent whereby it now has become one of the most comprehensive and complex programs of vocational adjustment. Broadly defined, vocational rehabilitation means accepting a physically or mentally handicapped individual as he is and seeing him through to the best vocational adjustment of which he is capable. As such the program not only requires, in the day to day operation, all that is contained or intended in the traditional definition of vocational guidance, but one which also invests public funds in its predictions and recommendations.

In spite of the large variety of services which may be purchased for eligible clients, guidance or counseling continues to remain the basic structure of the program. The effectiveness of services selected and the future welfare of the disabled individual and his dependents is contingent upon the quality of this service. Rehabilitation counseling differs from usual counseling briefly in several major ways. First, in the degree of special application of general counseling information and skills. Rehabilitation Counselors must be trained to diagnose and to understand the effects and implications of physical and personality deviations upon medical services, training, morale, and successful job placement.

Secondly, vocational rehabilitation is one of the few programs in which the Counselors have a continuity of responsibility that extends from referral through selection of an objective, preparation for the objective which is financed by the program and continues until suitable vocational adjustment is achieved. Finally, since disablement strikes at all economic, intellectual and age levels, the case-load of the average Counselor consists of a cross-section of society.

Paralleling this expansion of the program has been the increase in the number of professional employed and those who will be employed during the future. Prior to 1943 less than 500 professional personnel were engaged in the program in the 48 States, Territories of Hawaii, Puerto Rico, Alaska and the District of Columbia. Most recent reports indicate approximately 1700 professional workers currently engaged.

During the past fiscal year about 54,000 disabled persons were rehabilitated and it is estimated that the number will reach 65,000 by the end of the present fiscal year. The Federal Security Administrator in his report to the President on a "Ten Year Program for the Nation's Health" has set a goal of 250,000 rehabilitations per year by 1960. This goal approximates the number who each year become disabled to the extent of requiring rehabilitation services, to enter or return to employment. Although a determination of the specific number of qualified personnel required to achieve this goal cannot be made at this time, it seems reasonable to assume that the number might well exceed 4,000. The State-Federal vocational rehabilitation program in itself will therefore constitute a significant area of personnel work.

A third development which has taken place actually results from the absence of adequate professional training programs or opportunities for Vocational Rehabilitation Counselors. With but few exceptions, institutions of higher learning have not yet fully recognized what we think is their responsibility in establishing a curriculum, particularly at the graduate level, for this field of work. The exceptions are: Ohio State, Wayne University, New York University and to some extent, the University of Minnesota. Special short courses have been offered at Penn State, Colorado A & M, Hampton Institute, University of Washington and Michigan State Normal College. The result has been a serious shortage of trained Rehabilitation Counselors. Our only alternative, therefore, has been to recruit personnel from related fields such as education, social work, psychology, industry, and the like, and to organize a dynamic and comprehensive program of staff development or in-service training.

Time does not permit a description of the staff development program. The program is continuous; it covers a wide variety of specialized subject matter and utilizes the methods common to other in-service training programs. I have a few pamphlets here which describe a few of these accomplishments.

I would like to mention briefly one such program for Supervisors of Counselors which is at present in the process of being organized. Briefly, the program is patterned after the several

organized for doctors by the Commonwealth Fund and described in their publication, *Human Relationships in Public Health*.¹ The program content will be organized around the area of interpersonal relationships in the supervision of Counselors. The Staff will include Psychiatrists, Psychiatric Social Workers, Clinical and Applied Psychologists and one or two persons who have had considerable experience in supervising highly qualified Counselors. The ratio will be not more than three students to one faculty member. Lectures will be kept to a minimum and most of the work will be carried on in small groups and through demonstration and participation. The entire group will work, eat and be together for an entire 8-day period.

In addition to a staff development program we are attempting to establish standards of performance for Counselors which in turn may be used to evaluate the quality, particularly of the counseling area, of our program. We have used such indirect methods as follow-up, clients' opinions and the like, all of which have been of considerable value. We have long felt the need, however, for developing in written form what actually constitutes minimum standards of performance for the various areas of case study, counseling, case recording, and similar factors in order that the counselor might have some criteria against which he might compare his own performance. Furthermore, such standards are useful in attempting to evaluate the quality of counseling services being extended disabled persons in the various State programs. It also serves to point up the training needs of the counseling Staff. These materials are still in the developmental stage but nevertheless are proving very effective in stimulating State personnel to improve the quality of their services to the handicapped.

Finally, the need for research is as urgent in the vocational rehabilitation program as it is for other personnel and guidance programs. The document by Barker, Wright and Gomick entitled, *Adjustment to Physical Handicap and Illness*,² is, in my opinion, one of the most significant publications in the field. Rather than report on the studies which have been undertaken

¹ Published by the Commonwealth Fund in New York, 1949.

² Published by the Social Science Research Council, New York, 1946.

by the Office of Vocational Rehabilitation or are presently underway, I would like to mention an approach we are developing to encourage and stimulate research investigation by agencies or institutions other than our own. We have recently organized a National Committee of experts whose major functions will be to encourage, advise and coordinate psychological research for the blind. As a first step the Committee is making an inventory of psychological research on blindness now. As a second step the Committee plans to outline needed research projects, including methodology, which will be compiled and distributed to universities, colleges and foundations as a means of stimulating interest and action. Finally, the Committee will serve as a clearing house for those who may wish expert advice or direction with respect to their own research projects in this field. We feel that this Committee will serve a real purpose in stimulating needed research which might contribute to the welfare of the blind. I am sorry that time does not permit acquainting you with equally important developments in this field.

PERSONNEL SNAPSHOTS—SIGNIFICANT DEVELOPMENTS ON THE NATIONAL LEVEL AFFECTING STUDENT PERSONNEL WORK

HARRY A. JAGER

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I WELCOME the opportunity to represent the Occupational Information and Guidance Service of the Office of Education at this meeting of the American College Personnel Association. Although the Occupational Information and Guidance Service is chiefly concerned with improving guidance services in non-collegiate institutions, it recognizes and participates in important interrelationships. Just as your influence extends beyond the college level into the high schools and into the community, the activities of our Service have implications for personnel workers in colleges. I shall describe briefly several ways in which the activities of our Service and its cooperating State services impinge on your field.

Within the past year there has been a significant increase in the number of active State programs of supervision of guidance services. This increase will, we believe, result in better guidance services being available in the secondary schools of the Nation. High-school students will, as the quality of the service is improved, be better equipped, in terms of personnel background, when they present themselves at your institutions.

To implement better guidance work, State Supervisors for the next year are emphasizing evaluation. At our last national conference the group organized the second revision of a proposed instrument for this purpose. In cooperation with the Cooperative Study of Secondary-School Standards and with various groups of State Supervisors, our Service has, as a result, published an instrument for evaluating guidance programs in secondary schools. During the next year this instrument will

undergo rigorous research designed to perfect it. If you are interested in this instrument and in the Manual, you may obtain single copies free of charge from our Office.

Another significant development in the secondary-education field is the increase in the number of schools having counselors and guidance officers. From our studies we believe that nearly half of the students in the United States are enrolled in schools having a counselor. There are approximately 8,300 counselors located in nearly 4,000 different schools. However, only one school in six does have a counselor. It is quite obvious that guidance programs are common in the large city schools, whereas they are almost nonexistent in the small and rural high schools. This, I believe, has important implications for study by personnel workers in colleges which draw students in large numbers from the smaller communities and rural areas of the United States. The Supervisors of guidance services in several States have recognized the necessity of attacking the problem in rural areas. In some States, through the use of Federal funds, pilot programs in this type of school are under way. It is hoped that these pilot programs will not only stimulate the interest of the smaller schools in providing guidance services, but also identify methods by which these services can be provided despite staff and financial limitations. As the number of high schools having counselors increases, the number of high schools with which you must deal will increase. Plans which are effective now for dealing with the counselor found in one out of six high schools may not be effective when most high schools attempt to establish liaison with your institution. Data available to us indicate clearly that more schools will have counselors. It behooves college personnel workers, therefore, to make plans for effective articulation with these counselors.

Undoubtedly you are familiar with the Joint Committee report on counselor preparation, which has been adequately described at another session of this convention. I should like, however, to describe a parallel effort of the Occupational Information and Guidance Service and the State Supervisors and Counselor Trainers cooperating with our Service. At the Eighth National Conference of these persons the major topic

was the consideration of current issues in the preparation of counselors. This conference on counselor preparation was not an isolated event. Rather, it was another link in a chain of events. In 1945 one link was created when the Office of Education sponsored a conference of nearly 60 institutions on "Training on the Undergraduate and Graduate Levels in the Principles and Practices of Guidance Work in Secondary Schools." Prior to this meeting counselor preparation had appeared, but only as one of a group of topics, on the agenda of six national conferences of State Supervisors.

The Office of Education has given the problem of counselor preparation emphasis by appointing a specialist in the Occupational Information and Guidance Service who has been assigned full-time responsibility in the area of training guidance personnel. Among his other duties, has been the continuance of the series of directories of "Offerings in Guidance Work in Colleges and Universities," which have been published for some years each spring by our Service in cooperation with the Division of Higher Education in the Office of Education. The most recent issue, for the summer of 1949, has just come from the press. Single copies are available free of charge from the Office.

The specialist for the training of guidance personnel also has the responsibility of aiding the States in their effective use of funds provided by the George-Barden Act, which made it possible for the States to use Federal money for reimbursement of counselor training. These new resources made a constantly recurring question more important: What should constitute a counselor training program?

Beginning a rather ambitious study to help answer this question, in the spring of 1948 the Occupational Information and Guidance Service, in cooperation with the Division of Higher Education of the Office of Education, called together a group of State Supervisors and Counselor Trainers. Given the problem, "What should be the preparation of counselors?", the group identified eight major subtopics and organized a skeleton committee from among its members to study each subtopic. These committees then recruited others to participate in the work. They met several times in the late spring and

summer. Each of the committees prepared a report and presented it for consideration at the 8th National Conference of State Supervisors and Counselor Trainers. These reports were then revised in the light of discussion at the conference.

This series of publications presents the revised reports. The titles are:

- Duties, Standards, and Qualifications for Counselors
- The Basic Course
- Occupational Information
- Analysis of the Individual
- Counseling Techniques
- Supervised Practice in Guidance Services
- In-Service Preparation
- Administrative Relationships of the Guidance Program

These reports, of which two have already been issued, should all be available by summer. Anyone interested may secure copies by applying to our Service.

These four instances will serve to indicate a few specific ways in which our Service and your Association may work together: They relate to the interdependence of high-school and college personnel work; to the extension of guidance programs in schools from which your students come; to publications and studies; and to the revision and extension of counselor preparation which will affect every level of counseling work. We enjoy a principal means of cooperation in our close relationship with the Division of Higher Education of our own Office of Education, and are eager to do our share in this field in any way which your Association may discover advantageous in the future.

SIGNIFICANT DEVELOPMENTS AT THE NATIONAL LEVEL

KENNETH LITTLE

Director of Student Personnel Services, University of Wisconsin

WE are nearing the end of the fourth academic year since V-J day. During this brief period our colleges and universities have faced the most challenging problems and opportunities of their history. Public interest in programs of advanced education has seldom been wider or deeper. We are in a period of rapid changes. In my opinion, the changes have been gains.

The federal government's experiment with a large-scale program of educational benefits to veterans has been a gain. This program, I am confident, has paved the way to a continuous program of federal scholarships to needy and worthy students—a long step toward extending and expanding educational opportunity.

The Report to the President by his Commission on Higher Education represents another gain. Regardless of controversy upon some points, the total impact of the recommendations of this Commission upon policies and practices in higher education has been considerable. Certainly, the Report has brought to focus the crucial educational issues and decisions which face our colleges and the people who support them. The document is, in itself, a powerful educational instrument.

Still other wholesome influences upon higher education have resulted from the vast and far-flung educational program developed by the armed services. Thousands of young men and women first tasted the fruits of advanced training and education while wearing a uniform. For many this opportunity was unexpected, but highly appreciated. This spreading of educational opportunity has developed an appetite for advanced learning among wider segments of our society.

The ventures of the armed services into educational experimentation have made fruitful contributions to our knowledge and practices of teaching and counselling.

Suffice it to say that higher education in this country has moved to a new level. It is not likely that we shall ever return to our prewar position. Time ever marches on, never back!

When the flood of veterans first struck our colleges and universities, the need for collective action and widespread exchange of experience and practice was urgent. In response to this need, the Department of Higher Education of the National Education Association organized in the spring of 1946 a National Conference on the Education of Veterans. Two hundred selected leaders from American colleges and universities attended. These leaders represented all branches of our profession, all types of accredited institutions, and all sections of the country. They met to exchange ideas and to formulate the programs of action needed to meet adequately the educational needs of veterans. The conference was a working conference. There were few speeches, but much discussion. The index of participation among those who attended was very high. The objective was to get concentrated attention upon many problems by small groups of competent people who represented influential positions and important viewpoints. The Department of Higher Education thus hoped to offer itself as one agency by which all of the forces in higher education might speak as one upon a common problem.

The success of this First National Conference led to a demand for its continuance as an annual event. By the spring of 1947 problems of educating veterans had become the problems of higher education in general. The 1947 National Conference was larger and more successful than the first. Since that time, interest in these educational conferences has spread. After the 1948 national meeting, Regional Conferences were held in Oklahoma City and New York City. The Fourth National Conference on Higher Education concluded its sessions in this City just two weeks ago. Over seven hundred people participated.

Problems directly related to student personnel have consistently made up a large share of the questions, problems and topics discussed. Many individuals in this meeting have participated in, and furnished leadership to, these discussions. The voice of the student personnel worker is being heard in

places where it counts. It is worthwhile for us personnel officials to meet, as we are in this convention, to share our woes and exult in our achievements. It is just as essential that we meet to discuss these same woes and achievements with those who have interests and responsibilities which are different from our own. If the contribution of the Department of Higher Education is at all unique, it is in providing an opportunity for leaders in student personnel to exert influence upon and to cultivate the understanding of those people in higher education whose cooperation they must have, and whose decisions ultimately determine the direction their programs will take. In these conferences, Presidents, Business Officers, Academic Deans, faculty members, Registrars, Directors of Admissions, Student Personnel Officers, and representatives of State and Federal educational agencies share equal places in round table discussions. They speak as individuals, not as representatives of their institutions. I am certain that these discussions are increasing the general understanding and appreciation of the student personnel viewpoint, and stimulating the development of sound student personnel programs.

To outline the specific problems discussed, conclusions reached, or actions taken would require greater time than I have been allowed. It would likewise assume greater patience than I think you care to exercise. I will conclude by saying that the Department of Higher Education represents an agency through which persons with differing responsibilities in colleges and universities may join with their colleagues in the discussion of issues and problems which require common understanding and cooperative action. It represents an agency through which institutions of higher education may, as one body, exert influence upon national decisions which affect them all. It provides an instrument by which student personnel workers may cultivate an enriched understanding of their purposes and programs among a large and influential cross section of college faculties and administrative staffs. The Department of Higher Education is an effective organization rendering a unique service to higher education. I invite your attention to and participation in its program.

COOPERATIVE RESEARCH IN APTITUDE TEST DEVELOPMENT

CHARLES E. ODELL

Chief, Employment Counseling, Selective Placement and Testing Division, U. S. Employment Service

RECENTLY the Director of my Bureau, Robert C. Goodwin, had occasion to ask your President, Gilbert Wrenn, to comment on the question: "What, in your opinion, is the most significant step to be taken in the public employment service to build a better counseling program?" Your President's answer was a challenging one, and I would like to quote him in part, because his response points up the general theme of the comments I would like to make to you today. Dr. Wrenn, after saying some nice things about USES occupational research and operations, made the following statement:

The most significant steps to be taken in all public employment work are in the area of the personal relations of the service to the somewhat neglected one-half of its clientele—the prospective employees. . . .

Research is needed, desperately needed, upon placement in terms of proved job satisfaction factors—upon better tests, to be sure, but perhaps different tests—upon counseling procedures but procedures that aid the client rather than the counselor.

Cooperative research is the only solution to these basic employment needs. The USES has proved in its work with the *General Aptitude Test Battery* and its recent excellent approach to the college placement of seniors that it can stimulate and develop cooperative research and service programs. This is probably its greatest contribution in the future, the stimulation of research by colleges and other agencies on problems that are Nation-wide in scope. To be effective in such a movement, the USES will have to prove to the colleges that its primary concern is in the solution of the basic problems faced, regardless of where or by whom the research is undertaken.

Seldom is a speaker given so specific a delineation of what he is supposed to say as that outlined in Dr. Wrenn's above statement quoted from the *Employment Security Review* of

March, 1949. So it is my intention to rise to the bait and try to tell you what we are trying to do to stimulate cooperative research on worker analysis problems. The USES and the Civil Service Commission are perhaps the only two agencies of government which are specifically engaged in test research in behalf of the civilian worker. As you know, the Civil Service Commission's program is primarily directed toward testing job proficiency or knowledge rather than aptitude or potentiality.

Of course, the Army, Navy and Air Forces have large and significant test research programs, but these are directed primarily toward selection for training in military occupations. Therefore, when one looks for Federal governmental leadership in behalf of test research for civilian employment in private enterprise, one inevitably turns to the United States Employment Service. There was a time when we had a large and extensive central office and field research staff—at one time over 100 analysts were engaged in the development of oral trade questions, proficiency tests and specific aptitude tests for selection purposes. But, those days are gone—maybe forever. Today the total professional staff in the central office engaged in test research is seven people, including their capable Director, Dr. Beatrice J. Dvorak.

When I was asked to take over a combined counseling and testing division, that was my inheritance in manpower. But there was a rich heritage in test batteries and information in techniques of analysis and ideas as to what was needed to be done and how it could best be done. There was also the newly developed and introduced *General Aptitude Test Battery*, the first differential aptitude test battery designed for broad-gauge use in counseling.

My problem was to assist Dr. Dvorak in utilizing this heritage in tools and know-how to get maximum results in terms of both test research and the application of tests in local employment office operations. Our first decision was to concentrate on the extension of the use of our tests throughout the nation, and we have achieved some measure of success. Today over 400 offices are using a wide selection of test batteries in daily operations. Last year over 215,000 were tested.

Our next decision was to decentralize test research to State agencies, because we recognized that we were no longer in a position to provide any volume of central office test research. Accordingly, in the past year, we have developed, and are now introducing, handbooks on the collection of test data and on its analysis. More than a dozen State agencies are actively engaged in test research and others are in the process of gearing themselves to undertake developmental work.

Our third decision was to try to make maximum use of all potential sources of professional assistance from other agencies and organizations interested in test research. The most obvious and best potential source was the colleges and universities. Here, however, we faced a major obstacle—we have little to offer except our tools, instruments, know-how and desire for cooperation. In other words, we have no money for subsidies such as those offered by the foundations, by industry, or by the military services. Now it is one thing to sell cooperative research or contracted research when you can pay for it and quite another to sell such projects on the basis of mutual interest and desire to extend the horizons of available knowledge and information on what makes for a successful worker on a job!

But in spite of this grave limitation, the colleges and universities have responded amazingly well. A few examples will indicate to you the possibilities of cooperative research:

1. At the University of Utah, with the cooperation of Cal Taylor, the GATB was administered last year to close to 1,000 students in the final phases of their preparation, for purposes of developing norms for counseling toward Business Administration, Education, Pharmacy, Engineering, Social Science, Fine Arts, Pre-dental, Pre-medical, Law and Nursing. This year over 1,500 freshman students have been given the GATB and a study is now under way to compare aptitude test results with scores on interest, personality and achievement tests and biographical inventories, as well as to determine the effect, if any, of related training on aptitude test scores.

2. At the University of Minnesota, with Dr. Wrenn's assistance, the GATB is being used with high-school students to derive sex, age, and grade norms, to determine growth in

various aptitudes between different age and grade levels, and to appraise such differences in test performance as may be associated with differences in sex, urban-rural environment and socio-economic status.

3. At the University of Indiana, the GATB is being used experimentally to develop norms for the various major areas of specialization in Business Administration such as Accounting, General Business, Management, Sales, Advertising, Retailing, Finance and Banking, Business Education, Secretarial Training, Insurance, Public Administration and Statistics.

4. With the cooperation of Homer Rainey at Stephens College in Missouri, the GATB was administered to all final year students and tentative norms established on the various areas of specialization such as airline traffic service, clothing construction, merchandising, photography, radio and secretarial work. This year all entering students were tested and counseled on the basis of trial norms.

These are but a few examples of what is going on with colleges and universities. Other programs are under way or contemplated with Stanford, the University of Illinois, Tulane, Missouri, Ohio State and Duke University. But we are only scratching the surface and we know it. Dr. Wrenn is right—a great deal remains to be done.

The point I want to drive home to you here today is that there is an agency of government which, though unable to subsidize your efforts, is interested and equipped to cooperate with you in extending knowledge of human characteristics that make for educational and vocational success and satisfaction. From such cooperation we gain, but so do you—your graduate students are provided with meaningful projects for dissertations and demonstrations of professional competence; your institutions are provided with meaningful data for use in educational and vocational counseling, and also with specific instruments in the form of the GATB and our specific test batteries for operating use in guidance and personnel programs.

It is my long-range ambition to establish for civilian personnel research in the USES, the same type of grass roots program that is now carried on through the Extension program of the Department of Agriculture in advancing scientific knowl-

edge about agricultural methods and production. This is not the dream of a bureaucrat hungry for centralized power and authority over the destinies of mankind. I recognize the limitations and disadvantages of a big, centralized research program. My desire is to see research develop at the grass roots level in the colleges and universities, the States and the localities where the worker, the employer, and the counselor can see and understand the results, and thereby make better use of them. The rôle of the Federal agency in such a program would be that of adviser and coordinator: to digest, collate and exchange the best experiences from all over the nation and to guide the studies undertaken to assure a minimum of undesirable overlapping and duplication. In such a program, I would hope that funds would be available in significant amounts to subsidize local projects. I would also expect that our administrators and legislators would come at last to the realization that peace-time personnel research is a badly needed and long neglected phase of our national security program, as well as a major factor in our ability to mobilize and speedily allocate manpower in the event of a national emergency.

FINANCIAL ASSISTANCE TO STUDENTS

JOHN DALE RUSSELL

Director, Division of Higher Education, Office of Education, Federal Security Agency

THE President's Commission on Higher Education, in its Report issued in December, 1947, recommended a series of Federal appropriations to provide scholarship and fellowship assistance to well-qualified young people to enable them to attend institutions of higher education. This recommendation has met widespread approval. In considering plans for putting it into effect we are confronted by a great many questions of policy and organization. These must be decided before a law can be enacted and the machinery set up for its administration. My remarks today will consist entirely of a listing of some of these issues.

All of us who have anything to do with the drafting or criticizing of proposed legislation, or the setting up of plans for administration, heartily welcome the best advice and counsel we can obtain from every qualified source. It is for the purpose of obtaining such counsel that I am presenting to you today a list of some of the issues in the organization and administration of a Federal scholarship program. Within the limits of the time available to me this morning, I can present only a few of the more important issues. We shall be happy to have suggestions of additional questions, as well as your best thinking as to the solution of each of the problems. Here, then, are some of the issues:

1. Do we have enough evidence of the need for a system of Federal grants for student aid purposes? Are the studies that have already been made, showing the large numbers of very capable high-school graduates who do not go on to college, sufficiently convincing with regard to the need for a program of student aid?

2. What form should the aid program take:

- a. Grants to institutions for general support, so that they may reduce tuition and other fees?

- b. Loans to students?
- c. Employment for students, similar to the former NYA program?
- d. Scholarship and fellowship grants?

3. In considering the desirability of a Federally supported student aid program, do we need to take into account the probable demand for and supply of workers in the occupations which require college preparation? Is it safe to assume that: either (1) the increase in numbers of college-trained people to be brought about by a student aid program will not be sufficient to create an oversupply of persons qualified for the professions; or (2) that the student aid program will not actually increase the number of students in college, but will merely make certain that the most talented youth get a chance at higher education (presumably the colleges might hold their enrollments constant and merely replace some of the least-capable applicants by highly qualified scholarship holders); or (3) that guidance and counseling services can be relied upon as a means of preventing an over-supply?

4. How many students should be aided? (Note that President's Commission on Higher Education suggested 20 per cent of the non-veteran students.)

5. Should awards of scholarships be in terms of a specified number or percentage of the total for each of certain designated fields of study or vocational objectives (e.g., Medicine, Dentistry, Teaching, Social Work, Chemistry, Physics, Mathematics, etc.), or should the recipient be completely free to choose his own major field of study? If fields are to be designated, who is to determine which ones are to be given preference and how many scholarships are to be awarded in each?

6. Should grants be given without regard to the student's own financial resources, or should there be a "means" test?

7. If there is a "means" test, should the amount of the grant be scaled in accordance with the extent of the student's own resources, or should only "paupers" be allowed to participate? Should the grants be scaled in accordance with the number of the student's dependents?

8. Should there be a single grant paid directly to the student, from which he pays his tuition, other fees, and living and

incidental expenses, or should the grant be divided so that one part is a reimbursement to the institution for the instructional services and the other part is a subsistence grant to the student (similar to the present arrangement in the educational program for veterans)?

9. If all, or any part of the scholarship grant, is to be related to the payments made to the institution for instructional service, should this amount be based on: (a) the stated charges of the institution for tuition and fees, up to a fixed nation-wide maximum; or (b) the actual cost to the institution of providing instruction in the curriculum followed by the student, also up to some fixed nation-wide maximum?

10. If there are to be nation-wide maxima for scholarship grants, for tuition, or cost of instruction, or subsistence, should these amounts be written into the legislation or should they be left to be determined by administrative action?

11. Should student aid funds be allotted to the States according to a formula written into the law? Or should the entire fund be administered centrally? Or should some of the funds (e.g., for undergraduate scholarships) be allotted to the States and some (e.g., for fellowships) administered centrally? Or should there be allotments direct to institutions, as was done with NYA funds for student aid?

12. If there are to be allotments to the States, is the formula suggested by the President's Commission on Higher Education satisfactory? (Half of the funds allotted on basis of college-age population, half on basis of annual number of high-school graduates.)

13. Assuming that some or all of the funds will be allotted to the States, what should be the State organization for administering the program?

- a. Should there be a State Scholarship Commission?
- b. If there is a State Scholarship Commission, how should it be constituted and what should be the nature of its membership?
- c. What should be the extent and nature of the supervision exercised by the Federal Government over the program?

14. What agency should designate the institutions that are eligible to receive scholarship holders?

15. Should a scholarship holder be permitted to attend any approved institution in any State, or should he be restricted to institutions in his own State?

16. What should be the basis for selecting recipients of student aid?

a. Would it be feasible to have nation-wide examinations, the results of which the States could use at their option?

b. Should there be a requirement of selection strictly in accord with objective measures?

c. What safeguards are necessary to protect the student aid program from becoming involved in political patronage?

d. Can a system of selection be set up in such a way as to permit superior talents in wide variety to come to the top, e.g., music, art, social leadership, as well as verbal ability and mathematical skill?

17. How can the interests of Negro students best be served in States where the races are required to be segregated for educational purposes? Will it be satisfactory to divide the State allotment on the basis of population ratio, and have Negroes compete only with Negroes, and whites only with whites, for scholarship awards?

The foregoing list of issues presents a few of the more important decisions that must be made if a Federal program of student aid is set up. The membership of the American College Personnel Association is an important source from which we shall hope to obtain advice and counsel at the appropriate time in drawing up plans for such a program.

CONTRIBUTIONS OF THE VETERANS ADMINISTRATION'S ADVISEMENT AND GUIDANCE PROGRAM TO STUDENT PERSONNEL WORK

IRA D. SCOTT

Director, Advise ment and Guidance Service for Vocational Rehabilitation and Education, Veterans Administration

THIS is a subject in which the members of the staff of the Advise ment and Guidance Service of the Veterans Administration have a very positive interest. All of us have hoped that the Veterans Administration program for providing professional counseling services to veterans would so forcibly prove its great benefit to them that it would provide further impetus to the development of student personnel work and community counseling services. We feel, however, that our professional colleagues in the field of counseling and guidance who are not directly connected with the governmental agency designated by Congress to put into operation the program for the vocational rehabilitation of disabled veterans, and for the education and training of World War II veterans in general, are in a better position than we are to express with proper objectivity the contributions of the Veterans Administration counseling program to student personnel work.

Since the sources of information used by the Veterans Administration in setting up the Advise ment and Guidance program were largely the result of work previously done by persons engaged in student personnel work and closely related activities, it seems that a presentation of the Veterans Administration's contribution to this field may properly be introduced by first indicating briefly some of the ways in which these earlier contributions were utilized in the development of our program. If more time were available it would be desirable to explain more fully the many ways in which the Veterans Administration was influenced by the principles, procedures and techniques observed in the fields of psychology and counseling. Obviously, it would have been impossible for the Veterans Administration

to have developed from the beginning and *in toto* an adequate counseling program during the limited time in which millions of veterans had to be served.

For example, in view of the lack of time to develop tests for our purposes, it was necessary for us, instead, to evaluate those already on the market and to choose the most suitable. The use of tests by Veterans Administration Guidance Centers probably stimulated a greater interest among personnel workers in exploring further the use of tests in professional counseling work. We were not given the authority to conduct original research, so we combed and studied the literature on the ability requirements for occupations and prepared summary statements recommending procedures for our counselors to follow in order to improve their predictions of the individual's chances for success in the training programs prerequisite to various occupations.

We tried in a short time to synthesize methods which had been accepted by leaders in the field into a definite procedure which was standardized so that the records of counseling rendered an individual in one part of the country could be used in other parts of the country upon a somewhat uniform basis of understanding. Since this had not been previously done, it may be regarded as one of the contributions of the Veterans Administration to any phase of personnel work that requires the use of counseling records.

We have not only endeavored to find the best methods, techniques, and research data already developed by earlier workers, but we have been eclectic in the selection and application of the principles which had been developing in our profession. We have avoided adhering exclusively to the philosophy of any one school of thought.

These are some of the ways in which we have utilized for our program many of the techniques, methods, research findings, and principles which had been developing for many years in the fields of personnel psychology, counseling, and guidance. But there was no ready-made design for us to follow. Counseling of adults had never before been done on so large a scale. In our efforts to provide in an emergency situation for comprehensive counseling services on a systematic basis for a large section of

the adult population, we combed the field to find what was needed and we have also, we believe, made some contributions of our own by our methods of evaluating, selecting, and adapting the methods and techniques that were available to us.

Turning now to the consideration of the more particular contributions of the VA program to student personnel work, I shall mention briefly a few which we believe to be of some significance.

First, we have established, in cooperation with the Civil Service Commission, qualifications for our professional personnel such as Vocational Advisers, Personal Counselors, and Psychometrists. We arranged for Civil Service tests, designed to measure some of the required abilities, to be constructed and administered to candidates for these positions. While we may not have been successful in all cases in selecting and retaining only the best qualified persons, we recognized the need for the types of professional standards about which our personnel and psychological associations are now concerned. We have probably improved the status of counselors in general by setting up these standards and by insisting upon a higher level of remuneration than they were accustomed to receive in most educational institutions. As a result, more competent persons are being attracted to the field and qualified people who might have been tempted to leave will now remain. Furthermore, as a consequence of the Veterans Administration program there will be a reservoir of personnel, who have had a rich and valuable experience in counseling and the skills necessary, to transfer to student personnel work in many cases with a minimum of additional training.

The Veterans Administration counseling program provided the setting for showing with dramatic emphasis the need and value of counseling not only for students but also for adults in the community who are faced with problems of occupational or personal adjustment. As a result of experience in the Veterans Administration program many educational institutions which have had Veteran Administration Guidance Centers are already expanding their counseling services so as to serve non-veteran as well as veteran students and also all classes of people in the community. Dr. Mitchell Dreesse has reported at last

Monday's meeting here of the American College Personnel Association the findings of a survey conducted by him for the American Council on Education, of 154 educational institutions which reported their plans for the continuance of the guidance centers after the Veterans Administration contracts expire. I believe that some slight repetition of the figures pertinent to my assigned topic is justifiable. Of the schools reporting, more than one-half (56 per cent) had not had a centrally organized counseling service prior to the Veterans Administration contract. After experience with the Veterans Administration Guidance Centers, he found that only one school reported that it considered that the value of the services had not been demonstrated. Four out of five institutions were definitely planning to continue the services and, of these, seven out of ten will make counseling available to clients in the community as well as to their own students. Slightly more than two-thirds of the institutions responding checked as true a statement that the program has provided additional materials which will be of value after the Veterans Administration contract is no longer in effect, but only one-third expressed the belief that it has developed new techniques and procedures in testing and counseling. Forty per cent signified that it has resulted in an expanded budget for testing and counseling that will make it easier to maintain such services after Veterans Administration funds are not available, and 57 per cent indicated belief that it had provided a laboratory useful in training student personnel workers.

The Veterans Administration has also contributed towards putting student personnel work on a sounder basis than it had ever been before. The development had been very uneven prior to the war. It was operating in a few outstanding institutions but it was often fighting an uphill battle with administrators. In others, equally respected for academic offerings and enrolling thousands of students, professional personnel services were hardly recognized. Even in the most advanced schools, the impetus and financial support provided by the governmental program has now established these services more securely and has had a favorable influence on students, Faculty and administrative officials. In schools which had had no program earlier, it has provided the physical setting and facilities and the es-

entials of test equipment, and occupational and other materials with which to carry on.

At the N.E.A. National Conference on Higher Education, held here in Chicago a year ago, it was brought out that it would probably have taken fifteen to twenty years for student personnel workers at many schools to have received enough funds in institutional budget allocation to have made such a demonstration of the value of counseling. The official report of that conference contains the following statement:

The emphasis given by the Veterans Administration counseling in the determination of educational and vocational objectives, and the excellent results achieved through the guidance centers established at many schools have gone far toward removing the prejudice and scepticism of school administrators and faculty members in regard to programs of this sort. So complete has been the change from scepticism to acceptance that most schoolmen now regard the guidance center as a most effective ally to the academic program.

Among the procedures which we introduced was one regarding which some of our academic colleagues were inclined to disagree with us at first, but which is being more widely accepted now. I am referring to our policy of arriving at a specific employment objective in a relatively short period of time. Our *Manual of Advisement and Guidance* outlines a definite procedure for conducting the interview so that a veteran may be helped to come to a tentative decision at least as a basis for a plan of action. The plan may of course be changed at a later date if necessary in the light of future exploration, new information, and changed circumstances. Many advisers in colleges have come to appreciate the practical necessity of these methods, particularly with mature persons who cannot afford to be left in suspense for prolonged and indeterminate periods mulling over vague possibilities regarding their occupational adjustment.

One of the contributions which may not appear to be significant, but in actual practice has proven very important, is that of stimulating the systematic use of occupational information by developing methods of assembling and arranging it so that reference to the information in relation to any purpose is greatly facilitated and expedited.

In listing contributions we should mention our emphasis on considering the whole person, having careful regard to his personal and social problems as well as educational and vocational, and our use of specialists, called Personal Counselors, to whom veterans needing their services are referred. While we were not the first to recognize the importance of the personal counseling function in vocational advisement, we were perhaps the first to provide this service on a separate basis by assigning it to a special adviser called "Personal Counselor." Professional counselors have realized the importance of diagnosis and treatment of personal problems not sufficiently serious to warrant referral to psychiatrists. But many counselors in the past have not been well qualified for this type of counseling function and consequently some counseling and rehabilitation programs have failed to effect the occupational rehabilitation of their clients because they have given too little attention to the personal adjustment aspect of their cases. In our program, which required the recruitment of large numbers of counselors, it was evident that we could not expect to find that all persons otherwise qualified to do vocational counseling would also be capable of employing personal counseling techniques. We, therefore, decided to set up the Personal Counselor as a specialist and to provide intensive training courses for persons who had the qualifications for such training. These specialists have been used by advisers and training officers to refer cases needing some professional assistance but not requiring referral to a medical specialist and also for cases needing special determination as to whether they should be referred to psychiatrists.

We believe we have also demonstrated the feasibility of rehabilitating seriously disabled persons when emphasis is placed upon the remaining abilities, potentialities, and adaptive powers rather than upon disabilities, limitations, and handicaps. Emphasis on the application of this principle has characterized our operations with all disabled veterans, so that it is but rarely that such veterans are considered incapable of being restored to employability. We have demonstrated to college Deans and Faculties that, to an extent not realized previously, severely disabled individuals may be counseled and trained

for suitable occupational and educational objectives with reasonable assurance of their being attained.

It seems to me that we may conclude that the major contribution of the Veterans Administration to student personnel work has been to accelerate the development of counseling and guidance services so that a much larger proportion of our student and adult population will profit from these services which had been available to a very small proportion of America's student body prior to this program for veterans. The emergency, which required the financial and administrative assistance of the Federal Government in rehabilitating veterans, has been in effect a catalyzing agent in stimulating and speeding the development of the professional counseling aspects of student personnel work.

THE COLLEGE ADMINISTRATOR EVALUATES STUDENT PERSONNEL WORK

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THE purpose of this paper is to consider primarily the evaluation of student personnel work as a total concept and program.

The title refers to the "college administrator." Let me make clear that for the purpose of this paper, "student personnel administrators" are arbitrarily excluded. A college administrator is hereby defined as a College or University President, Vice-President or Academic Dean who, whether budgets are contracted or expanded during the next few years, will have a good deal to say about the development of the student personnel program on his campus. The student personnel workers will, of course, be affected, personally and professionally, by the nature and extent of this development, but, most important of all, the college student will be affected. And the college student is our major concern.

Let us assume that this college administrator at the hypothetical University of X prides himself on being thorough and objective in his approach to and in his judgment of all phases of the educational program in his institution. There is a student personnel program on his campus, coordinated to a considerable extent, and one which has expanded with other parts of the institution during the post-war years. It appears to be moving along reasonably well but some important developmental plans for the entire institution are being projected for a ten-year period, and both classroom and extra-classroom programs are to be reviewed carefully. This administrator gave the green light to the expansion of the student personnel program following the war, and in general, he has been in accord with the objectives and services of the program. But it is necessary now to re-appraise the total institutional program and he raises these questions:

1. What have student personnel programs been accomplishing throughout the country? What is the evidence?

2. Just how essential and basic to the present and future program of the University of X is all of this student personnel work? Are its objectives being attained? What evidence do we have to date?

3. What additional evidence do we need and how shall we go about getting it?

Let me emphasize at this point that this college administrator has not been labeled as *typical*. We know that the typical college administrator functions infrequently as an educator, in the broad sense of that term. He asks rarely for experimental evidence, for the outcomes of the total program. He is more likely to operate on a day-by-day basis, meeting pressures here, improvising there, and giving critical attention to the student personnel services mainly when and if criticisms come from students, faculty or parents, or legislators, or if the interpersonal relationships among the student personnel staff are causing trouble.

We student personnel workers usually lament the fact that most college administrators seem to operate in such fashion. We say that they are not educational statesmen and that we cannot interest them in the broad goals and outcomes of our work. Well, here we have a more or less ideal type of administrator who is functioning also as an educator at the hypothetical University of X. Apparently we have convinced him over the years of the necessity of thinking of student personnel work as a total concept and program and of coordinating it along functional and administrative lines. Now he is raising questions with us accordingly. Can we produce?

Let us look first of all at the evaluation picture from national and regional bases and then concentrate on the student personnel program at the institution of this inquisitive administrator. What have student personnel programs been accomplishing throughout the country? What is the evidence?

We find that the first national survey was undertaken by L. B. Hopkins (6) in 1925 under the sponsorship of the American Council on Education. Fourteen Colleges and Universities had agreed beforehand to participate in the study in order to learn

more about personnel work in higher education and how to make it more effective. Mr. Hopkins spent several days at each institution observing the work in process, interviewing the people concerned and examining whatever written data and records were available. He then rated each of 20 student personnel services in these institutions on the basis of his own standards.

The national studies since that time appear to have been limited to questionnaire and checklist surveys by national associations with little or no attempt at evaluation. These studies were, of course, helpful in setting forth the nature and scope of student personnel work in higher education.

During the early 1930's Brumbaugh and Smith developed a point scale for evaluating personnel work in Colleges and Universities of the North Central Association of Colleges and Secondary Schools (2). Weights were assigned to ten major areas of a student personnel program and specific performance items were analyzed in each of the areas.

The North Central Association demonstrated considerable interest in student personnel work during the 1930's. Gardner was asked in 1935 to investigate the extent to which provisions for student personnel services were associated with educational excellence in the colleges and universities of the Association. Fifty-seven institutions were included in the study and the entire field of student personnel work was divided into eleven different areas. The services in each area were analyzed and a series of score cards were derived in order to evaluate the total institutional program of student personnel service. Gardner weighted the various items in each area after consultation with experts in the field; a general score for the entire personnel program was then totaled. He also checked the findings of his system with the score card system developed by Brumbaugh and Smith and found close agreement. The general conclusion of the study was that an analysis of the provisions for student personnel service provided a valuable index of over-all institutional excellence (5).

Western Personnel Institute has sponsored surveys of student personnel work in the eleven western states in recent years. About thirty western institutions have been cooperating

through WPI in promoting the development of student personnel procedures and research materials.

In WPI's 1948 study a combination questionnaire and rating sheet was constructed utilizing the descriptions of sixteen areas of student personnel service prepared by the Committee on Student Personnel Work of the American Council on Education in their "first draft" revision of the 1937 brochure, *The Student Personnel Point of View*. The objectives of the study were to find out how many of these services were provided by the member institutions, how they rated the performance of these services, and how they rated the training and experience of the people performing these services.

The thirty member institutions of WPI stated that they provided services in the sixteen personnel areas described by the Committee on Student Personnel Work of the ACE with the following exceptions: one did not provide service in the area of discipline, another in the area of religious counseling, three in marital counseling, three in foreign student counseling, and three did not provide an evaluation service which had been described by the ACE Committee as "A continuing program of evaluation of student personnel services and the entire educational program to insure the achievements by students of the objectives for which this program is designed."

Generally speaking, the institutions rated themselves above average in both performance and the training of the student personnel workers concerned in the 16 personnel service areas. The area of evaluation was included among those in which the institutions indicated some dissatisfaction with performance. All but one institution making comments expressed a need for greater evaluation. But the WPI Committee making this study stressed the following among its conclusions: "We can't rate and evaluate student personnel services adequately without some common understandings regarding detailed and specific objectives, functions, standards of performance and standards of training (4)."¹

Those of you attending the business meeting of the ACPA two days ago heard the report of the Professional Standards and Training Committee, whose members had interviewed col-

¹ 1948 Conference Report, Western Personnel Institute, Pasadena, California.

lege administrators and student personnel workers in a sampling of fifty collegiate institutions of various types. The college administrators were asked to make judgments regarding the adequacy of the organizational setup for their student personnel programs, to propose the types of training necessary for student personnel workers in various areas, and to rank a series of personal characteristics submitted by the Committee in terms of importance for student personnel workers.

Most of you heard the report of the CGPA Study Commission yesterday. The pilot study to be conducted on secondary-school counselors in Maryland should pave the way for a real nationwide study of the functions and qualifications of personnel workers at all educational levels.

All of this is of interest to our college administrator but it is evident that national and regional studies have not to date and apparently will not in the near future give definitive answers to his question: What have student personnel programs been accomplishing throughout the country? Let us turn to the institutions themselves. What have they been doing on their own to appraise their student personnel programs?

We find quite a few descriptive articles and research reports on various phases of the student personnel programs. The Committee on Research and Publications of the ACPA reported to us a few years ago that 230 papers were presented at the conventions from 1924 to 1940 inclusive, dealing with the administration of personnel services, placement, clinical work, admissions and orientation, extra-curricular activities, financial aid, and vocational information (4). Over-all evaluations were not found. The Committee did express disappointment that only 34 per cent of these papers involved the presentation of research material in any form. It is true that only a few names stand out as we think of people who have carried out experimental studies in one or more of the student personnel areas—for example, Williamson, E. S. Jones, Rogers, Bordin, Darley, Blackwell, Toven, and Lonzo Jones.

However, we find the pickings even slimmer when we look for over-all analyses or evaluations made by institutions of their own programs. W. H. Cowley directed a student personnel survey at Ohio State University in 1931, which involved a

functional and structural analysis of services and agencies by means of interviews, time schedules and logical classifications. Recommendations were then made for coordination and administration, based upon a careful analysis of each function with respect to structure. Cowley wrote up the procedures followed in an article entitled, "A Technique for Making a Student Personnel Survey" (3), but there is little indication in the literature that other institutions followed suit.

Williamson and Sarbin published a historical and descriptive analysis of the total student personnel program at the University of Minnesota in 1940 (7). This analysis revealed organizational and functional strengths and weaknesses; recommendations for improvements were made and the present structure and program of student personnel work in Minnesota stems in part from this study.

Wrenn and Kamm published last year an interesting "first-step" procedure for evaluating a student personnel program (8). They pointed out that the evaluation of student personnel services is frequently neglected because there is doubt as to what specific services are involved in a student personnel program and because there has been a lack of adequate criteria against which the effectiveness of a service may be judged. The writers constructed a series of report forms by first selecting and defining the 14 functions making up a comprehensive student personnel program, then listing the specific services and provisions which they considered necessary to the adequate carrying out of each of the functions. The evaluator, in using these forms, combines the above sets of judgments and rates the degree to which each student personnel function is carried out in meeting the needs of students. An arbitrary weight is given to each of the 14 functions in terms of their assumed relative significance in the total program and a total score is derived regarding the extent of the entire program.

The writers state that this method of evaluation has been used in some 12 to 15 institutions, that the forms have proved workable but that the reliability has not been determined. They stress that the use of this method calls for judgments that can be adequately made only by a qualified personnel specialist or administrator. In their opinion "It is not primarily

an institutional self-rating form, although such a use is possible by a professional worker who can maintain strict objectivity to his own institution." They conclude that their method of evaluation will isolate the specific services of a program, permitting an informed judgment as to their relative adequacy and pointing the way to more intensive evaluation of selected aspects of the program through appropriate research methods.

It is evident from the review so far that there is little information we can muster to answer the college administrator who wants data on the outcomes of student personnel programs throughout the country. We do find, however, several interesting studies which attempt to get at the outcomes of the total educational program of an institution. The best known of these are the follow-up studies made by the University of Minnesota during 1939 and 1940 of graduates and non-graduates of the General College. These were significant explorations into the lives of alumni and ex-students in an attempt to identify the assumed outcomes of college education. Their findings brought about some changes along both curricular and student personnel lines and high-lighted the need for more intensive studies.

Syracuse University is currently engaged in a Self-Survey under the direction of Dr. Robert Pace which includes student and faculty knowledge of, and use of, student personnel services as well as a follow-up study of the activities, opinions and experiences of a large sample of graduates.² The graduates are asked to indicate their activities in detail under the main headings of Politics, Civic Affairs, Religion, Literature, Music, Art, Science, Finances, Radio and Reading. Their opinions are secured along with a rating of the strength of these opinions in regard to points listed in the areas of Politics, Civic Relations, Government, The World, Philosophy, Literature, Music, Art, Science, Household, etc. The questionnaire also listed 18 goals which colleges might help students to achieve, such as: make a wise vocational choice; learn to think clearly; meet a problem and follow it to a right conclusion without guidance; develop social competence, etc. The graduates are being asked to rate the importance of the particular knowledge, skill or understand-

² Source: Correspondence with Dr. Robert Pace, Associate Director, Evaluation and Psychological Service Center, Syracuse University, New York.

ing as a goal of college education, and then to indicate the degree to which their experience at Syracuse helped them in attaining this knowledge, skill or understanding. Students now attending Syracuse are being asked these same questions.

Princeton University started a five-year study in 1947 to find out what it is producing, what influences its production, and what it can do to improve its product—the student. In the words of President Dodds:

The objective of the study is to examine as critically and systematically as possible through the use of modern techniques all aspects of residential university life, including both instructional methods and programs and extra-curricular activities, for their effect on the student's intellectual, moral and physical development . . . the truth is that we have not applied the tools of our trade to testing the results of our own educational efforts. We have not applied our own methods to ourselves in spite of the fact that procedures have been developed in the fields of statistical analysis and the social studies which now are being extensively used to attack analogous problems in government, industry and commerce and which hold out similar promise for education.³

The Princeton Study will cover students from 1931 to the freshman class of 1947, totaling in number about 40,000.

The results of the Syracuse and Princeton studies will be awaited with keen interest by all of us in the field of higher education. Meanwhile, our college administrator's query about the outcomes of student personnel programs throughout the country will have to remain pretty largely unanswered.

So let us go back to the campus of our University of X where, as you will recall, the administrator had raised additional questions: Just how essential and basic to the present and future of the University of X is our student personnel program? Are its objectives being attained? What evidence do we have to date? What additional evidence do we need and how shall we go about it? These are tough-minded questions and we'll have to proceed carefully.

First, what is the framework within which we are working? We find that the Board of Regents and the Faculty established about ten years ago the following goals for the University to achieve with its students:

³ *Milwaukee Journal*, August 22, 1947.

An ability to think honestly, clearly and constructively
 A facility in the oral and written use of English, and some familiarity with the treasures of literature

An understanding of the meaning and methods of the main branches of learning

Sufficient concentration in one or two fields of learning so that the student may be prepared more adequately for his life work

An interest in the excellent management of his mind and body so that they may become contributing factors in the furtherance of the students' life aims

An appreciation of all peoples, past and present, thus developing a cosmopolitan attitude of mind

A social outlook and way of living that will lead to mutually satisfying and helpful relations with others

An appreciation of beauty as expressed in nature and the arts

The determination to use this knowledge for human welfare

A personality developed around Christian principles and ideals.

We find that an Advisory Committee on Student Personnel Work, set up just after the war and including representatives from the student body, teaching faculty and student personnel staff, worked out within its first two years of operation a comprehensive definition of student personnel work, a series of assumptions underlying this definition, and a number of specific objectives related to the phases of the program.

Here is the definition:

Student personnel work consists of those processes and functions undertaken by an educational institution which place emphasis upon (1) the individual student and his intellectual, social, emotional and physical development, (2) the building of curricula, methods of instruction and extra classroom programs to achieve the preceding objective, (3) democratic procedures in working with students in order to help bring about their greatest possible self-realization, (4) the performance of student personnel functions rather than emphasis upon specially designated individuals to perform them. (1)

Obviously, this is a broad definition which does not put a wall between *student personnel work* on the one hand and *instruction* on the other. It assumes that student personnel work should be done by *all* members of the instructional, administrative and student personnel staffs, differing only in extent, and in the respective roles of the persons involved; that it is carried on *throughout* the institution, differing from staff

member to staff member, but only in terms of role and degree, as well as in types of specialization. The basic assumptions worked out by the Advisory Committee are as follows:

1. That individuals will inevitably have problems in adjusting to a complex society
2. That personality must be considered as a whole
3. That there must be emphasis on prevention
4. That personality and environment are inter-related
5. That the individual has the capacity to take the major responsibility for his learning and for the solution of his problems
6. That a common purpose must be defined and must operate in an interdependent democratic society

The social-psychological foundations for these assumptions were outlined by the Committee, but we will not go into them at this time. Next, the Advisory Committee set forth objectives, based in large part upon the student personnel functions formulated by the American Council on Education in 1937 and incorporated shortly thereafter in the charter of the American College Personnel Association. They are:

1. To encourage participation in student government to the mutual benefit of campus community and the individual.
2. To assist students in planning their activity programs so that skills for effective leadership and cooperative group participation can be developed in line with individual needs.
3. To work with all student organizations in the development of programs which will benefit the campus at large as well as meet the needs of individual members.
4. To help interpret student interests and needs in relation to the classroom and extra-classroom policies and programs of the College.
5. To enable worthy students to continue their education by making financial aids available through fellowships, scholarships, loans, and part-time employment.
6. To make possible the attainment of personally successful and socially acceptable living in an attractive and congenial environment.
7. To provide a selected variety of experiences to supplement classroom learning; these experiences to be aimed toward developing social responsibilities and good citizenship.
8. To help students select and carry out a program of general education which will serve as a basis for later specialized training.
9. To assist students to make wise decisions in the selection of educational, vocational, and personally satisfying objectives.

10. To provide students with an opportunity for intensive self-exploration to remove personal obstacles to maximum use of their opportunities for growth during their college career.

11. To provide occupational information for students in relation to their preparation, aptitudes, and abilities.

12. To maintain contact with occupational patterns for placing graduates in industrial, business, and professional fields.

13. To assist students from overseas and Americans planning to study abroad in solving their problems in order that their period of foreign study may be of maximum benefit to themselves and to their hosts in promoting international understanding.

14. To develop a student health program which will have educational and preventative aspects as well as clinical, by:

- a. Protecting the well from the sick.
- b. Detecting structural and functional defects and securing treatment for them.
- c. Discovering defective habits and attitudes and supplying appropriate information and advice for their correction.
- d. Teaching hygiene for present and future living through the scientific information and advice given the student regarding his health needs.

All-University objectives, a definition of student personnel work, assumptions and objectives of student personnel work—this is the framework we have to work with. What data do we have available at our hypothetical University with which to begin answering our administrator?

1. A functional analysis of the student personnel program was completed three years ago. Some unnecessary duplication and overlapping was noted and minor administrative changes were effected. Also the Faculty and staff gained a clearer notion of just what functions were being carried on and what inter-relationships were necessary.

2. A study has just been completed regarding the predictive efficiency of the admissions program. It is now possible to predict scholastic success in the liberal arts college of this institution with fair efficiency, based upon high-school rank, a scholastic aptitude test and a reading comprehension test.

3. The effectiveness of the how-to-study course had been measured just before the war by a control-group experiment. The results were not conclusive but there was some indication that students of average and better-than-average scholastic aptitude profited from this instruction.

4. An experiment just completed involved 100 students who had received educational, vocational and personal adjustment counseling from the specialized staff in the Counseling Center, and who were paired on relevant characteristics with 100 students who did not receive specialized counseling. Various adjustment criteria were set up and it appeared that 70 per cent of the group counseled had achieved better adjustment and had made better grades.

5. A survey of the social and extra-curricular interests and needs of the students is just being started. Data will be gathered concerning the students use of leisure time, over- and under-participation in extra-curricular activities, etc. These data will be supplemented by individual case-studies.

6. A study has been made during each of the past three years of the use of the student personnel services, the extent and nature of referrals, etc. A healthy increase in use has been noted each year along with more referrals and a wider distribution of these referrals from the various academic departments.

7. Near the end of this year an opinionnaire covering all phases of the student personnel program will be given to representative samples of the student body and of the teaching faculty. Trained interviewers will use this opinionnaire and the results should be of real interest and value to the Advisory Committee and to the student personnel staff in gaining information on what people think of the personnel program.

Well, so much for the studies already completed or planned. Our administrator will be glad to have a summary of their data regarding our program, but little of it will be new to him. He received brief reports of each study at the time of its completion, so our summary will in the main refresh his memory. It is evident that we cannot give adequate answers to his questions without further evaluation.

What should be our next step? Certainly we should encourage additional studies of techniques, processes and results in all areas of our student personnel program—Admissions, Orientation, Housing, Health, Faculty Counseling, Clinical Counseling, Financial Aids, Social and Extra-Curricular, Remedial Services, Discipline (civic control), Job Placement. We shall want to

relate to our student personnel services more of the findings of recent experimental studies in the fields of Anthropology, Psychology and Sociology, as will be stressed by Dr. Rohrer. He will also discuss with us some little-used research procedures worthy of more consideration by personnel workers. All of that is very important.

But we are discussing in this paper the over-all evaluation of a student personnel program and the concern of this administrator regarding the outcomes of our whole program, and regarding the degree of emphasis which should be given to the student personnel program in the crucial years ahead. Surely our projected evaluation should encompass the student as a whole, and we should attempt to evaluate the results of his college experience, as a whole. *This means a total institutional study of the needs of the students coming to the institution, and the evaluation of the outcomes of the total educational experiences at the institution.*

We would insist that the concern of the University for the full development of the entire person, as evidenced by the statement of institutional objectives referred to earlier, be translated into a thorough-going evaluation of the outcomes of the total University experience. We would ask our Advisory Committee and our administrator to join with us in suggesting this full-scale evaluation to the appropriate Educational Policies Committee of the Faculty. We might bring to the latter committee the conclusions reached by another institution in its follow-up study of former students. The study brought forth this discouraging picture of the adult life of its former students: Their goals were predominantly self-centered; they were not concerned with philosophy or religion; they had passive leisure-time pursuits; they became resigned in the face of complex family situations; they did not participate in local civic affairs; they failed to understand the influence of their jobs on their family happiness; they had inconsistent attitudes toward related social problems; they were concerned about government but they failed to participate in political processes; their desire for reliable information was falsely satisfied by the reading of biased sources. All of this added up to disturbing apathy and complacency, to a disturbing failure to appreciate inter-relationships among problems.

How do we know whether or not this picture fits those who have attended and those who have graduated from our institution after they have been away from our institution for five years? Is there any difference between our graduates and non-graduates, our students and a comparable group of younger men and women who did not continue their education beyond high-school, our high-ranking and low-ranking students? Have we taught them to follow intellectual pursuits after leaving college, to think critically, and to build a social, cultural and intellectual life of a high order? Have we taught them and motivated them to the point where they will actively participate in the social, economic and political life of their communities and will see the essential relationships with other communities, with state, nation, and world?

In brief, what do we accomplish with the human material which comes to us? What short-time and long-time effects do we seem to have upon a person's life during his 1, 2, 3, or 4 years with us and, say, ten years after he has left us?

There would be various phases of this total institutional evaluation. Even before the goals appropriate to a particular institution are clarified, there should be studies of the needs of its students and the needs of the society in which they live. The social and civic needs peculiar to the region, the employment needs of the region and their implications for curricular development, the personal, social and cultural needs of the high-school graduates who apply for admission, and implications of these needs for the full educational program of the institution—all merit careful study. As Eckert has pointed out, only then can the differences between the present status of students and outcomes considered appropriate for them individually and collectively be identified. She adds that an "educated guess" about the future of these needs must precede evaluation,

... because it is impossible for an educator to judge the worth of any discovered outcomes without being convinced that one type of growth is more desirable for a given growth of students than some other type might be. Every attempt made to find out what a school is accomplishing should help to refine these goals by furnishing clues to the characteristics that students ought to possess to achieve their purposes effectively.⁴

⁴Eckert, Ruth C. *Outcomes of General Education*. Minneapolis: University of Minnesota Press, 1943, chapter 1, p. 15.

The evaluation must be fitted carefully to our particular institution. Eckert stresses that "The development of an evaluation program in the light of the goals and resources of each particular institution most clearly distinguishes evaluation studies from many earlier surveys in which a common yardstick and common criteria of judgment were applied to great numbers of schools, despite fundamental differences in student potentialities and social opportunities.⁵"

All possible evidences of growth or change must be gathered and carefully weighed. The exploration of changes in young people's thinking and living should be as extensive as the desired outcomes. This means varied kinds of evidence, great ingenuity in evolving an appropriate experimental design, the most refined analytical techniques, great skill in drawing reasonable generalizations from all of these evidences. Eckert cautions that "because appraisal studies emphasize inter-relationships, because they try to view simultaneously and steadily a young person's successes both in the classroom and in out-of-school situations, they require thorough technical competence in the analysis of basic data. Even more, they demand what may be termed a statistical conscience in interpreting results."⁶

This total institutional evaluation should be continuous, with related studies being carried on simultaneously. For example, we would propose a follow-up opinionnaire similar to that utilized in the current Syracuse Study in order to secure information from recent graduates and leavers, while at the same time we would be preparing to secure all possible data about next year's freshman class, including setting up an enlarged entrance testing program to secure measures of a student's interests, aptitudes, personality characteristics, attitudes, etc. Using an adequate sample, we would attempt to measure change from year to year through frequent observations, interviews and measurements. We would follow this group for 5, 10 and 15 years after graduation or school-leaving, attempting to evaluate desired outcomes, and plowing back our findings into our curriculum and student personnel services in order to adjust and improve constantly our total educational program.

⁵ *Ibid.* p. 15.

⁶ *Ibid.* p. 16.

Perhaps the resources of our institution will permit only a preliminary and exploratory study. The Evaluation Committee and others would stand to learn much from it, however, and the way would be open for more penetrating analyses. Above all, the instructors, student personnel workers, the administrators and the students concerned would undergo a rich and valuable experience in cooperative effort! There would be clarification of common goals; there would develop understanding and appreciation of each other's contribution toward attaining these total institutional objectives.

Some of you may wonder about this "Shangri-la" University of X. It has been presented to you as an institution with real objectives, a fairly well-coordinated student personnel program, a Student-Faculty Advisory Committee which had agreed upon a comprehensive definition of student personnel work, basic assumptions and specific objectives. The institution has a top-level administrator who inquires about outcomes. Various researches in the student personnel field have already been completed—more than most of us have in our own institutions. It sounds as if the student personnel workers in the University of X have a rather ideal situation. They have, compared to most of us!

But, along with the rest of us, they do not know the outcomes of their total program. They have been given an unusual opportunity to attempt to find some of the answers. We who are less fortunate may have to create such an opportunity. This kind of evaluation is hardly a magic formula. It is only one of many things we need to do. It will not solve the many and various problems in the realm of student personnel.

Dean Williamson pointed out in some recent correspondence that we have not yet arrived at an experimentally minded society or university which bases its structure and process upon objective evidence. It is an ideal toward which we should work. Meanwhile, we stand much to gain if we can stimulate our teaching colleagues and our administrators to give consideration to the formulation of objectives, to the definition of them in terms of human behavior, to the identification of the sources of evidence for observing such behavior, to the development of methods for securing the evidence, to the interpretation of the

results gathered in the light of our objectives and to the application of these results to the various parts of the educational program.

The process will be slow and faulty. We cannot help but profit, however, by working cooperatively with our colleagues on these evaluation problems of mutual concern. And, above all, it is the student who will really profit as we apply our findings to the improvement of all phases of our educational program.

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AN EVALUATION OF COLLEGE PERSONNEL WORK IN TERMS OF CURRENT RESEARCH ON INTERPERSONAL RELATIONSHIPS

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Introduction

IN planning this paper it was my intention to develop it along three lines: (1) To present an analysis of the societal functions which higher education served, and the role of the college personnel worker in the performance of those functions. (2) To point out some little-used but valuable methodological research techniques which should aid the college personnel worker to obtain meaningful answers concerning the problems which confront him in the field of teaching students skills in interpersonal relationships. (3) To review some representative research studies in the field of the social sciences that are pertinent to the problems of college personnel work. When I had completed the rough draft, I had just about enough material to last four times the length of time allotted me. In cutting it was necessary to present only the major conclusions of the first section without any documentation of the ways in which those conclusions were reached and, in addition, to make bare mention of the valuable research methodologies which are little used in personnel work. For those who may be interested, I plan to publish the first section in its detailed form. In the published report of this paper will be found references to a detailed consideration of the methodological studies mentioned.

The Societal Responsibilities of Higher Education and the Role of the College Personnel Worker in Meeting Those Responsibilities

An evaluation of the societal functions to be served by institutions of higher education, as revealed by an analysis of social

¹On leave for the 1948-49 school year and working at the Institute of Human Relations, Yale University, under a Social Science Research Council Fellowship award.

structure, role behaviors and adjustment difficulties unique to the population class, "college graduates," leads to the following five conclusions:

1. Institutions of higher education have as their responsibility the development of those essential personal *and interpersonal* skills and knowledges which will enable the student to successfully perform the role activities of a particular social status for which the institution purports to train him. Any failure to be continuously aware of this social frame of reference will lead to a neglect of a major area of training.

2. In greater and greater proportions, the development of interpersonal skills and knowledges on the part of the student has become the responsibility of educational institutions. This is especially true for higher education because of the specialized categories for which they purport to train students. From the point of view of social functioning, institutions of higher education serve the basic function of providing training to those individuals who aspire to a higher status standing; they are societal instruments to facilitate upward social mobility.

3. Colleges and Universities, by and large, are failing to develop the essential interpersonal skills and knowledges on the part of the student which are essential for occupancy of the higher social category to which they aspire. We have no well-formulated, systematic training program to guarantee the student an opportunity to learn those interpersonal skills and knowledges essential and necessary for successful occupancy of the status for which we train him by way of personal skills and knowledges. This failure has, in part, been due to the myth that we in America have a classless society.

4. Historically, the student personnel worker has assumed major responsibility for those organizations which the college community has evolved to provide some training in the development of interpersonal skills. In any evaluation of current college personnel work the chief negative criticism which can be made is to the effect that, by and large, personnel workers have not developed more effective training procedures for imparting to the student the interpersonal skills and knowledges essential for occupancy of the status for which the academic faculty prepares him by way of personal skills and knowledges.

5. This failure of our educational institutions to develop

more efficient ways of imparting the essential interpersonal skills and knowledges, or to at least explicitly bring them out in the open for the student to discuss, has resulted in an actual perpetuation of many arbitrary and undesirable, but, nevertheless, *real* social class differences. Our failure has resulted in a greater social and cultural lag which tends to interfere with the practices of truly democratic principles. Equally important is the fact that the personal conflicts which the college graduate experiences as a result of this lack of training causes the class, "college graduates," to exhibit a greater number of symptoms of maladjustment than any other educational class in our population.

*Some Recent Research on Interpersonal Relations and its
Implication for College Personnel Work*

One large and important area of research on human behavior is that one concerned with isolating the variables which determine the development of personal or non-social skills. Adequate reviews of the voluminous literature concerned with these problems are made yearly and there is no point to my "rehashing" them at this time. Suffice to say that we can do a real workman-like job with the problems of training in this area. We can measure an individual's non-social skills and knowledges and we can make a fair estimate of his aptitude to learn those individual skills. This is possible as a result of the rather elaborate development of basic knowledge in the field of tests and measurements which has in turn permitted the development of corresponding personnel practices represented in the college testing services. This ability to measure basic factors related to non-social skills has also permitted the development of elaborate job descriptions which define the minimal basic personal skills and abilities which are prerequisite for success on the job. This, in turn, has made possible a corresponding development of refined job-placement procedures by our college placement bureaus. We have a considerable body of basic knowledge concerning the variables which influence the acquisition of those personal skills which permit us to develop the corresponding college personnel practice of providing remedial training programs in the fields of reading, speech, English and mathematics, to name a few.

The body of basic scientific knowledge concerning the vari-

ables which control the development of interpersonal skills and knowledge has, by contrast with the non-social skills, been slow in developing. However, in recent years significant studies have been made which have not, as yet, received adequate attention in educational circles. These studies do not provide *the* solution for effective training in interpersonal skills and knowledges. They do, however, suggest the kinds of further research which will eventually permit us to develop interpersonal skills as effectively as we can now develop personal skills. I would like to consider briefly some of these studies and to point out some of the implications they have for college personnel work.

The first field to be noted is that concerned with the development of measuring devices for assessing the interpersonal skills which an individual possesses. The most important development in this area has been the projective techniques. The projective technique on which we have the most research data is the *Rorschach Test*, which has served as the prototype for the other tests which have been developed in the projective field. Perhaps the best discussion of the projective techniques is to be found in a recent book by Bell (1). In addition to the wide use which has been made of projective tests in the personal counseling bureaus of colleges and universities, there have been some applications to the more general problems of college personnel work: for example, the work of Murphy at Sarah Lawrence (19); the work at the University of Chicago Medical School (18); my own work in the medical school at the University of Oklahoma (26). The chief difficulty at present encountered with the projective tests is that we do not quite know what to do with the results. To demonstrate that the current procedures used to select freshman classes for Schools of Medicine result in a selection of students, of which approximately 20 per cent are definitely maladjusted, is one thing. To provide effective preventive training procedures in the pre-medical training program is quite another. There is, however, some basic research work which points the way in which these preventive and remedial training programs might develop, which brings us to the second research field which is concerned with attempts to identify the social variables which control the development of interpersonal skills.

Of major importance is the area of research represented by

the classic studies of Sherif (23, 24). Sherif experimentally demonstrated that the activities of an individual are always a reflection of, and are influenced by, the social situation in which they occur. Secondly, his studies identify some of the basic variables which control the development of interpersonal ways of acting, and he has experimentally demonstrated the way in which some of these skills can be taught. These studies, since they experimentally identify some of the variables which control the development of interpersonal skills, should receive the considered attention of every personnel worker.

A second area is that represented by the work of Warner and his associates (28) which present data demonstrating conclusively that in our modern American communities there exist distinctive class and status structures, that each class and status has distinctive standards of acceptable behaviors, and that in moving from one class to another these different standards of behavior must result in much personal conflict. Perhaps an even more important contribution of Warner's *Yankee City Series* is the demonstration that ethnographic field methods can be successfully used, in complex societies, to isolate and describe those important cultural variables which determine the development of role behaviors acceptable to a given status. The implication for higher education of this work is clear. As social institutions designed to provide the student with the necessary skills to successfully engage in upward class mobility, it is essential that we know, first, what the role behaviors are that the student must learn, and second, how we can devise methods of teaching them. The *Yankee City Series* is a big step forward towards making both of these problems capable of solution.

A third area is that represented by the pioneering work of a small group of anthropologists, psychiatrists and psychologists on the relationship between personality development and social structure. Of importance here is the work of Ralph Linton (16), H. S. Sullivan (27), Kardiner (11), Fromm (7), Gillin (8), Kaldegg (10), and DuBois (4). This work demonstrates conclusively that the individual's personality structure reflects the specific culture to which he has been exposed and that personality configurations vary as a function of the existing social structure. This has at least one important implication for edu-

cational and personnel practices. We have in the United States cultures, not *a* culture. It follows, therefore, that different colleges and universities, in order to achieve a common product must engage in varying educational procedures dictated by the cultural backgrounds of their students. A good methodology for developing desirable interpersonal skills on the part of the students, say at the University of Maine, may be of no value, or indeed a handicap, in attempting to achieve the same outcome at the University of Oklahoma. Each institution *must* develop its own program of social training in terms of the cultural background of its students. This conclusion strikes directly against one of the most hallowed of all personnel procedures, that of imitating *in toto* the procedures of a high prestige personnel organization located in some distant place, and justifying the whole procedure *not* in terms of local needs but in terms of the excellence of the program at the distant institution. Procedural imitation, as such, has no justification in terms of what we now know concerning regional cultural differences.

A fourth important area is that represented by the Bennington College study (20). This study demonstrated that attitudes, opinions, and ways of interpersonal participation can be modified by the interpersonal environment found in the College and that in large part this modification occurs in interpersonal activities engaged in external to the class room. The implication of this study for college personnel work is clear. The college personnel worker in his sphere of activities does have the means for developing successful training programs in interpersonal relations. His problem is simply one of research to isolate the variables which are dominant in his own particular institution. In this connection it should be noted that all college personnel research organizations have available the makings of an elaborate personnel research organization at their own institution, namely, the members of their own academic teaching staff. In line with an earlier discussion at this meeting, one of the easiest ways in which to obtain coöperation from the teaching staff at your institution is to provide them with a clear-cut research problem in their own field of research interest and ask their aid in its solution. Frankly, we of the academic staff are "suckers" for that kind of "bait" and, seriously, much valuable research data and goodwill would result from such coöperation.

These major research trends for studying the variables controlling the development of interpersonal skills are actually concerned with the positive training of students in order to bring about an adequate mastery of essential interpersonal skills. There is one important aspect of training in interpersonal skills and knowledges left to discuss, namely, the field of remedial training.

The development of remedial procedures for training a student in interpersonal skills and knowledges is closely associated with the work of Freud. One of Freud's really great contributions to the treatment of the mentally ill was his recognition of the fact that most personal maladjustments develop from the conflicts arising in interpersonal relations, particularly the patterns of interpersonal relationships learned in the basic socio-cultural group, the nuclear family. It was a comparatively easy step to adapt Freudian retraining procedures to the problem of the remedial training of interpersonal skills of college students. The emotional zeal and fervor with which the adaptations have been made by some college personnel people is evidence of the really great need those workers felt for some technique which would aid them with their retraining problems. One of the current popular but restricted and specialized adaptations of psychoanalytic procedure is called "non-directive counseling." Rogers (21) in 1942 published a manual summarizing a set of procedures which are derivations of some aspects of psychoanalytic techniques. In that manual he very carefully pointed out the limitations to the use of the technique in remedial training procedures. These limitations are such that the method could be strictly applied to only about 10 per cent of the general population and possibly 15 per cent of the college population. Despite Roger's explicitly stated limitations there has occurred an almost hysterical generalization of those procedures to the point where some enthusiastic apostles of the non-directive technique offer this admittedly limited technique as a cure of all the ills of society. Even more unfortunate is the fact that hardly any basic research has been done to determine what the application of the technique actually does to the individual, or what validity the technique has for retraining the person in interpersonal skills.

What little evaluative research work has been done points to

the restricting limitations which the method has. Take, for example, the generally held belief of the Rogerian apostles that: If given an unstructured situation in which one person talks to a second person concerning a personally frustrating problem there will result, on the part of the talker, an experiencing of emotional release or catharsis which, in turn, "provides for growth." "Growth" is the desired outcome. Translating the clique jargon into traditional psychological terms, it is held that verbalization about a frustrating problem will automatically result in the elimination of conflicting emotional factors which will in turn provide for improved performance in interpersonal situations. Yet, a recent experimental study (22) demonstrated conclusively that talk, in a Rogerian unstructured situation, about a personal problem served only to frustrate the individual more, which was reflected in a building up of an emotional state and a consequent lowering of the performance of the individual. Moreover, this study demonstrated that "emotional release" can occur *only* when the client ceases to be frustrated. The cessation of frustration may be due to problem solution or it may be brought about when the client temporarily *escapes* from talking about the frustrating problem: catharsis may occur without any problem solution. If nothing else, this study demonstrates the great urgent need for objective critical experimentation on the whole problem of the therapeutic role of emotional release and of the variables which govern its occurrence.

Much more clarification is also needed on what is meant by the stated desired end-product of counseling, "growth." Rogers and his students write about it as if growth takes place through the process of "insight." But insight is not a process, it is a phenomenon; no one has ever demonstrated a "process of insight." By inference "growth" must refer to psychological growth or learning, yet Rogers' manual contains not one single reference to the experimental studies on learning which have been accumulating for 55 years. Since therapy is synonymous with learning, it would seem reasonable that a consideration of the experimentally demonstrated facts concerning learning would aid greatly in the formulation of a methodology of retraining.

The whole problem of the validity of the claimed results of

non-directive counseling is also in need of more careful experimental study. In a follow-up study I made of 50 employees at the Hawthorne plant, all of whom had been in counseling relationships with the counseling department for a year or more, I found 33 of them did show a permanent desirable change in their behavior as evidenced by a decrease in the number of personal problem references, etc. I also found that 26 of those 33 exhibited that change only after they had visited the Placement or Social Service Departments (which at Hawthorne have "directive counseling" functions). These departments brought about a re-structuring of the 26 employees' home or working interpersonal environment. In view of such data one can hardly claim that the desired change of all 33 was attributable solely to non-directive counseling.

In a recent monograph, Muench (17) purports to make an evaluation of non-directive therapy. The evaluation is made in terms of various test scores obtained before and after therapy. The size of the sample reported on is 12. Certain statistical procedures were applied to the test results which are interpreted as showing that a desirable change occurred in the basic personality structures of this group which is attributable to non-directive psychotherapy. Of the tests used by Muench greatest emphasis is placed, perhaps rightly, on the Rorschach results. In grouping his data for analysis he assumed that during the process of therapy (i.e., the process of learning), evidences of "no-change" were insignificant and hence should not be considered in the statistical analysis. For example, he statistically evaluated the differences between the number of new Rorschach responses following therapy which were deemed desirable and the number of new Rorschach responses which were deemed undesirable following therapy. His conclusions were based on this type of analysis. This is analogous to assuming that in teaching the multiplication tables one has a successful method if, following training, the number of new correct answers given by students are greater than the number of additional new wrong answers given. The fact that a majority of the students continue to give the same answers at the end of training as they did at the beginning would, by Muench's reasoning, be ruled out as of no significance. If one makes the assumption,

common to experimental studies of learning, that a failure to show a changed pattern of behavior or to show a change in the opposite direction from the one desired is evidence of the failure of the training procedure, then one is justified in statistically comparing the improvement data with the "remainder" data. When such a grouping is made of Muench's Rorschach data (17, p. 154) there results two groups, an "improvement" and a "no change plus decrement." Statistical analysis of those results shows that the Rorschach changes following therapy are just about what would be expected to occur due to chance, although in the "Personal Adjustment" factor there is a suggestion that personal adjustment was worse after counseling (difference statistically significant at the 20 per cent level of confidence). The number of cases involved in the Muench study was so small that one cannot attach too much significance to his results. His general design was laudable. With less biased treatment of the data it is possible that this design will provide much needed validity data concerning the technique.

Finally, there is a little-read, but important, monograph by Mary Shirley (25) which represents one of the most exacting validity studies of release therapy which has yet been reported. It reports a follow-up study which was made of 55 former clients of the Smith College Child Guidance Bureau. The follow-up was made from four to ten years following the closing of the clinic case record. Counseling had been given both children and parents. To quote the results found in the follow-up, "more than one-half of those children and mothers who received the type of guidance called 'advice and suggestion' eventually overcame their difficulties. . . . only a tenth of the children and mothers who received 'insight' therapy at the clinic finally outgrew their difficulties."

I have gone into the detailed consideration of the problem of the relative validity of "non-directive" counseling as a technique for developing interpersonal skills because I feel that not enough attention has been given to the whole important problem. Too much of the type of thinking represented by the "either-or" dichotomy has gone into the writings of its promoters. It is time that those personal counselors re-structured their field and came to appreciate that release therapy is just

one of the many useful tools available for developing skills in interpersonal relations. A recent series of articles by Finesinger (5) attempts to demonstrate the way in which release therapy fits into the whole problem of remedial training of personality factors. "Non-directive" counseling, as one specific demonstration of a technique of release therapy, may demonstrate itself to be as useful a tool for developing certain deficient skills in habits of interpersonal relation as has Grace Fernald's kinesthetic reading method in the remedial training of certain deficient reading skills. One fact concerning its value is abundantly clear. At best, it is *one* of a host of useful tools available for remedial training of interpersonal skills; it is not *the* tool.

Finally, I wish to point out some methodological research procedures which are little used in college personnel work but which are worthy of further consideration by college personnel workers.

It is impossible to discuss methodology without immediately coming face to face with the problem of valid criteria. The validity of a given criterion is directly given by the accuracy with which one can predict a future specific event, (i.e., "event 2"), from a present specific event, (i.e., "event 1"). A point which greatly simplifies the problem of valid criteria is that *the empirical occurrence of event 2 is the only wholly valid criterion measure which exists*. To the extent that we use as a criterion some measure of event 2, to that extent we have a valid criterion. To the extent that we use some characteristic of event 1 which stands in a known empirical relationship to event 2, to that extent we are using valid criteria. These facts concerning the validity of criteria have important methodological implications. First, in order to make a statement concerning validity, one must be able to identify the two specific events under question. Second, these events must be quantifiable on a cardinal or ordinal scale. Third, we must know the empirical relationship which exists between events 1 and 2. To the extent that we attempt to make statements of relationship between concepts of high-level abstractions and specific events, to that extent we lower the validity of our stated relationship. This follows from the fact that the greater the degree of abstraction of the concept, the greater the probable error of the statement of relationship be-

tween the concept itself and the specific event for which it stands. Thus, statements concerning "the relationship between childhood frustrations and success in life" are meaningless and the statement of relationship can have no validity since the abstraction "success in life" can mean almost any subsequent event. To discuss further the concept of validity would carry me far afield from my assigned topic. I hope that this brief discussion of the concept of validity will point to the importance of avoiding high-level abstractions and also point to the necessity for picking empirical observables when choosing criterion measures.

The first methodological procedures to be mentioned are those of R. A. Fisher and his students (6). His methods have been elaborated from the problems involved in more precisely estimating the magnitude of error introduced by random sampling, into an experimental situation. The actual statistical procedures utilized are called analysis of variance and covariance. In connection with his statistical work Fisher and his students have given detailed consideration to the types of experimental designs to which these methods of statistical analysis are best fitted. His designs, which are ideally fitted to many problems of research in college personnel work, have not achieved the popular recognition which they deserve. Since Fisher's methods permit one to validly estimate the degree of interaction occurring between two or more measurable variables, they are especially adaptable to research work in which several measurable variables are interacting simultaneously. Lindquist has pioneered the use of these methods in the field of education and his text (14) is perhaps one of the best introductory presentations of the application of these methods to the problems of education.

The second methodological procedure is that involved in the *ex post facto* experiment. This methodological procedure consists essentially of a refinement and elaboration of aspects of the genetic method which has been used in psychology with varying degrees of crudeness since the time of G. Stanley Hall. The elaboration of the procedure into a very useful research method is attributable to a group of sociologists led by Professor F. S. Chapin of Minnesota (3). Perhaps the best statement of this method is to be found in a small volume by E. Greenwood (9).

The nature of the *ex post facto* experimental design can perhaps be made clear by contrasting it with the classic single-variable experimental design in which we very carefully control and regulate the independent variable, (i.e., the stimulus variables) acting on an individual, and then observe the influence of that variable on the occurrence of event two, the response. Conversely, in the *ex post facto* design we exert our control through selection of the stimulus variable *after* it has operated and thereby reconstruct what might have been a classical experimental situation. The advantages of such a research design for personnel workers is very great since they commonly must start with the existing uncontrolled social and non-social environment of the students (i.e., the "environmental" variables) and are then asked to make meaningful explanatory statements concerning the resulting behavior.

The third methodological research procedure consists of the ethnological field methods which have been devised by anthropologists for studying culture. Briefly, their research method consists of actual partial initiation of the researcher into the role behaviors required by the statuses existing in a social group. The initiation takes place through the aid of an informant who is thoroughly familiar with the group. In practice, it is as if a Dean of Students was to go to a campus where he was not known, enroll in the college and then obtain an outstanding senior to guide and explain to him the proper behaviors to achieve the status of "outstanding senior." This would include an explanation of why it is important to efficiently use the files of past examinations; why it is necessary to work furiously to get admitted to an office in a social group, and, when once achieved, why it is doubly important to furiously work for an office in another social group; an explanation of the intricacies of the rating-dating complex, etc. In addition to the instructions given by the informant, this information would be supplemented by the visiting dean's own observations and his less intensive interviewing of other members of the society. He would continue to gather information on the culture until the number of novel, unexplained situations encountered per week or month stabilized around zero. This point might be represented graphically by that point on a negative growth curve at which the

number of novel answers is constant and hence the curve becomes asymptotic to the base line around zero.

The chief advantage of the anthropological field methods for studying our college culture lies in the fact that, if properly used, they permit one to obtain a factual description of what actually are the shared patterns of interrelationships operating in the social group. This empirical type of descriptive data is, and must always be, the starting point in formulating a meaningful statement of the relationships existing between variables.

The chief criticisms which have been leveled at the procedures of the field anthropologist are: (1) their sampling techniques are wholly inadequate in that they are biased and result in distorted pictures; (2) they fail to present their data in terms of the individual but instead report their data in terms of categories or statuses; and, (3) that the methods are valid for studying primitive cultures but are wholly inadequate for dealing with complex cultures such as ours. The first and second criticisms have been made by naïve individuals who are unaware of the fact that there are several equally valid levels at which relationships can be described. One does not have to describe interpersonal relationships in terms of the individual; they may be described in terms of categories or statuses and hence indirectly may be related to individuals just as we, in psychology, describe the independent variables controlling the rate of acquisition of a motor skill without any direct reference to the muscle segments involved. The common-sense idea of the anthropologist in the field, to consider his data complete when, with continued information-gathering activity, his basic pattern of information is not altered, is a sound procedural practice as has been demonstrated in a far more precise manner by the statistical formula for determining the size of a sample within given limits of sampling error—a formula that has proven valuable in phases of market research (2), public opinion polling (15), and studying sex behavior of the human male (12). By and large it appears that the field methods of the anthropologist have much to commend them to the personnel worker as a technique for obtaining descriptive information about interpersonal relationships. It is more than an interview technique since independent observations are constantly being made by the ethnographer

and added to his body of knowledge concerning the culture being dealt with. The successful use of the method demands a rigorous application of the basic rules of scientific description just as does any other scientific methodology. The first volume of the *Yankee City Series* (28) and Kluckhohn's (13) recent monograph are perhaps the best descriptive sources on this technique.

In closing, higher education in general and college personnel workers in particular are going to have to develop more effective training programs for the development of interpersonal skills. To do this we must have, first of all, a body of basic knowledge concerning the variables controlling the development of interpersonal skills and knowledges. The social structure of the college provides an excellent laboratory. The college personnel and academic teaching staff working together as a research team can do the research. By such efforts, we may some day be able to write a job description of interpersonal skills and knowledges which is as complete a guide for training as are our present job descriptions of non-social skills and knowledges.

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A LIMITED SURVEY OF PROFESSIONAL STANDARDS AND TRAINING OF COLLEGE PERSONNEL WORKERS

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DURING the meetings of the American College Personnel Association a year ago, members heard a report by Gordon Anderson in which he made certain recommendations for the Professional Standards and Training Committee. A common core and special minimum training requirements for five types of college personnel work were presented.

The Professional Standards and Training Committee for the year 1948-49 studied this report and decided to investigate the qualifications of a sampling of college personnel workers. In making this decision the Chairman was advised by members of the C.G.P.A. Study Commission and the Academic Council of the Western Personnel Institute.

The Study Commission of the C.G.P.A. has been charged with the responsibility of studying professional qualifications. By agreement with the Commission it was determined that the ACPA Committee might work on one phase of the problem this year, as a pilot study.

The ACPA Committee decided to explore, with the limited funds available, the following aspects of the work of these college personnel officers—Coordinators of Student Personnel Programs, Deans of Women and Men, Counselors, Directors of Admissions, and Directors of Student Activities:

I. Qualifications

- a. College degrees earned and college degrees which these individuals and their administrators consider "ideal."
- b. Undergraduate major and "ideal" major.
- c. Graduate major and "ideal."
- d. Major work experience prior to present position.
- e. Special courses deemed "ideal."

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2. Desirability of internship
3. Desirability of certain types of work experience
4. Personal characteristics deemed most important
5. Deficiencies in training and qualifications
6. Length of service
7. Reason for entering the personnel field
8. Organization of personnel programs

Investigation of duties performed by these officials indicated a very wide range and great variations in time devoted to them. Study of extra-curricular activities in which they engaged while they were college students was made but no significant data were secured. Data concerning the qualifications of Placement Directors are not included because an insufficient number of cases were interviewed.

The sixteen members of the Committee are individuals who volunteered, during the meeting last year, for service with this group. Their names appear below².

The committee did not have sufficient funds to meet, but President Wrenn provided a small budget for visits by members to nearby colleges and universities.

Mr. S. S. Davis, doctoral candidate at the University of Colorado and member of the Committee, studied the colleges available for participation and made recommendations concerning the sample. He has developed the interview forms which were used and has tabulated the data. A total of 52 institutions were visited by the Committee members. Of this number 13 were "large" institutions and 39 were "small." Comparison with the college enrollments listed in the Office of Education Directory³ indicated that the sample was not very representative.

² Gordon V. Anderson, Assistant Director of Testing and Guidance, University of Texas; Mary D. Bigelow, Assistant Dean of Student Personnel, Stephens College; W. W. Blaesser, Dean of Students, Washington State College; A. Ralph Carl, Associate Director, Stevens Institute of Technology; Marie A. Corrigan, Dean of Women, Catholic University of America; S. S. Davis, Graduate Student, University of Colorado; Paul L. Dressel, Director of Counseling, Michigan State College; Leona W. Felsted, Dean of Women, Ohio Wesleyan; Joe N. Gerber, Director of Student Personnel, Northwestern State College; Milton E. Hahn, Dean of Students, University of California at Los Angeles; Grant M. Norem, Director of Student Personnel, North Dakota State Teachers College; Dorothy Pollock, Director Occupational Guidance Service, Stephens College; Wilson Thiede, Director of Admissions, University of Wisconsin; Florence M. Thompson, Director of Womans Residence Hall, Indiana State Teachers College; A. A. Welck, Head of Counseling and Testing Services, University of New Mexico; William Davidson and Lois Gaunt of U. C. L. A. assisted also.

³ *Circular 238*. Washington: Federal Security Agency, Office of Education, 1947.

The Committee members could visit only a total of 52 colleges with the \$250 of travel funds available. The comparison of Directory enrollments with the sample is as follows:

<i>Directory</i>		<i>Sample</i>	
*Large	5.5%	Large	25%
*Small	86.6%	Small	75%
Medium	7.9%	Medium	0%

"Large" institutions were determined to be those of 5,000 or more enrollment and "small" under 2,000.

The sample of colleges of education, technical colleges, etc., was not representative, due to travel limitations, but sufficient numbers were included so that some conclusions can be drawn safely from the data.

There are thirty-one pages of tables in the report. The budget of the Committee did not provide sufficient money for mimeographing that much material. Data which were considered to be interesting or significant have been placed in the Summary and Conclusions which follow; the number of cases was too small to warrant use of percentages.

Summary

Organization of Personnel Services.—Members of the Committee discovered wide variations in the organization of student-personnel services, the titles of coordinators, if any, and the individuals who do counseling or guidance work. It was found that personnel workers in large colleges spend a greater percentage of their time in that work than do similar officials in small colleges.

It is recommended that ACPA give consideration to the adoption and recommendation of standard, commonly-accepted and recognized titles for workers in the field of student personnel.

Coordinators.—Although only a small number of colleges is included in the sample, it is interesting to observe that the Doctor's degree is possessed by or considered to be ideal by a significant number of Coordinators. There is no significant pattern of under-graduate major, but Psychology, Personnel, and Education are given frequently as ideal graduate majors. College and/or high-school teaching and personnel work are indi-

cated as the most common existing and ideal work-experience backgrounds. The majority of Coordinators have been in their present work less than three years.

Special courses deemed ideal for Coordinators were Counseling, Personnel and Psychology. Most of the people interviewed expressed a favorable opinion concerning the desirability of a period of internship for Coordinators; a year was mentioned most often as being desirable. A majority of those interviewed expressed the opinion that workers in this field should have employment experience before they engage in graduate study. Throughout this report "employment experience" means teaching as well as other types of experience.

Objectivity, satisfaction in helping others, adaptability, sense of humor, understanding, patience, approachability and sincerity were the personal characteristics checked most frequently, out of a list of 19, as being important for workers in this field.

The most commonly mentioned deficiencies in training and qualifications were insufficient or inadequate training or work experience. The most common reason given for entering student personnel work was "requested to do so by President or Dean."

Deans of Women.—The majority of large and small college Deans of Women indicate that the Master's degree is an actual and an ideal qualification. A noteworthy number of Deans of Women majored in English during their undergraduate study. Personnel, Education and Psychology were mentioned most often as ideal graduate majors. High-school and college teaching were indicated most often as actual and ideal work-experience backgrounds. Special courses deemed ideal by a majority of Deans of Women were Education and Psychology. A substantial majority of those interviewed recommended a period of internship, of one year. An overwhelming majority indicated the desirability of having some experience prior to graduate study. The majority have been in their present positions less than three years.

Six personal characteristics, out of a list of 19, were checked most frequently as being important in the work of the Dean of Women; they are sincerity, approachability, sense of humor, understanding, objectivity and patience. The greatest defi-

ciencies in the training and qualifications of Deans of Women according to this and administrators' conceptions of the ideal were lack of knowledge about counseling and guidance, inadequate background and inability to work with people. The most common reason given for entering this work was "Requested to do so by President or Dean."

Deans of Men.—A majority of Deans of Men consider the doctorate ideal although a considerable number indicate the Master's degree as being adequate. There is no marked pattern of common undergraduate major but many small-college Deans consider a graduate major in Psychology or Education to be ideal. The majority of the Deans have been in their present positions less than three years.

The most common background of work experience of these individuals is college or high-school teaching. Many consider teaching experience ideal; experience in business or industry is indicated as being important, too. Special courses deemed as being ideal are Education and Psychology. A period of internship of a year is indicated as being desirable by almost every Dean interviewed. Work experience before graduate training is begun is recommended by most.

Eight personal characteristics were selected, out of a list of 19, as being important in the work of the Dean of Men; these are sincerity, understanding, satisfaction in helping others, patience, sense of humor, approachability, adaptability and broad-mindedness. Lack of training in counseling and lack of background of experience were the deficiencies in training and qualifications most commonly mentioned. A majority of those interviewed entered the personnel field because they were requested to do so by the President or Dean.

Counselors.—A majority of large-college Counselors interviewed have Doctors' degrees and consider them ideal as qualifications; Committee members were unable, because of lack of time, to interview all Counselors. Those Counselors reported on probably are the outstanding ones and, therefore, not completely representative. The majority of small-college counselors have Masters' degrees but their administrators consider the doctorate ideal. Psychology, Education or Social Science undergraduate majors were reported by some counselors. Psychology,

Personnel or Education graduate majors were given as actual and/or ideal qualifications. The majority of these Counselors have been in their present positions less than three years.

College teaching was the most commonly mentioned actual and ideal work experience. Psychology, Counseling, Measurement and Statistics were mentioned most often as special courses deemed ideal. The vote for a period of internship was almost unanimous: one year was indicated most frequently. A very large majority of those interviewed recommend experience before the worker begins graduate training.

The seven personal characteristics checked most frequently, out of a list of 19, as being important for Counselors, were sincerity, objectivity, warmth of personality, pleasing personality, approachability, understanding and patience. The greatest deficiencies in training and personality were too little experience in counseling while in training, lack of understanding of clinical practices and procedures, unsuitable personality and lack of a philosophy of counseling. A very small number of Counselors entered this work because they were requested to do so by the President or Dean. The majority planned to enter this field or were interested in it. Quite a few admitted that they had drifted into it.

Committee members reported a wide range in titles given to counselors. There is need for standard titles and for better definitions of the terms "guidance" and "counseling."

Directors of Student Activities.—The majority of Directors have Masters' degrees and many of them (and their administrators) consider that degree ideal. A noteworthy number state that the doctorate is ideal. No particular undergraduate major is mentioned as being significant but Education, Personnel and Psychology are mentioned most frequently as ideal. The majority of these workers have been in their present positions less than three years.

Work in student activities and high-school or college teaching are indicated most frequently as being actual and ideal work experience prior to present position. The special courses deemed ideal for this work were Psychology and Education. Practically everyone agreed that a period of internship is de-

sirable. One year was recommended by the majority but two years were mentioned by several. A majority stated the opinion that employment experience should be provided before graduate training is begun.

Eight personal characteristics were checked most commonly, in a list of 19, as being most important for Activity Directors; these are sincerity, understanding, sense of humor, objectivity, approachability, patience, adaptability and self-confidence. The greatest deficiencies in training and qualifications were given as inadequate training and experience. A small majority of those interviewed indicated that they entered this work because they were requested to do so by the President or Dean, but a considerable number indicated that they had planned to enter it or were interested in it.

Directors of Admissions and Registrars.—Many small-college officials in this category have only the Bachelor's degree but a large majority of large- and small-college individuals indicate that the Master's degree is ideal. A small number state that the doctorate is ideal. There is no clear-cut undergraduate pattern actual or ideal, but Education and Psychology are mentioned by many as ideal graduate majors. The majority of these Directors have been in their present positions less than three years. Generalizing on the basis of data available is dangerous because the number of cases interviewed was very small.

The work-experience background of these individuals is so varied that no pattern, except high-school teaching (for several people), is worthy of mention. College teaching is the ideal experience mentioned most frequently. Special courses deemed ideal most frequently are Personnel, Education and Statistics. A very large majority state that internship is desirable; one year is the period mentioned by a majority. That work experience should be provided before graduate training is begun is the unanimous opinion.

Nine personal characteristics were selected by these officials (out of a list of 19) as being most important for Directors of Admissions and Registrars; they are sincerity, self-confidence, adaptability, understanding, patience, pleasing personality, satisfaction in helping others, sense of humor and objectivity.

Inadequate training and experience were listed most commonly as the greatest deficiency in training and qualifications. The majority of Directors indicated that they had entered this field of work because they were requested to do so by the President or Dean.

Undergraduate Majors.—No field of educational personnel work included in this limited survey was characterized by any particular undergraduate pattern of major subjects.

Graduate Majors.—Coordinators, Deans of Women, Directors of Student Activities and Counselors mentioned Education, Psychology and Personnel Work frequently as ideal graduate major fields. Many Deans of Men and Directors of Admissions mentioned Psychology and Education as ideal graduate areas; they were not so apt to include the field of Personnel. Psychology, Education and Personnel were the courses mentioned most often as being deemed ideal.

Work Experience.—College and/or high-school teaching were mentioned most frequently as the type of work experience engaged in prior to present position.

Internship.—Although Committee members reported that ideas about internship are not clear, the opinion that it is desirable was almost unanimous. The majority favor a period of one year.

Employment Experience Prior to Graduate Study.—A very large majority of educational personnel workers favor employment (including teaching) prior to graduate study.

Deficiencies in Training and Qualifications.—Insufficient or inadequate training or experience are mentioned most commonly as deficiencies. Broad and general statements made in reply to questions about this matter indicate that some people interviewed are not well qualified to judge.

Reason for Entering Personnel Work.—The majority listed "requested to do so by President or Dean" as the reason for entering this work. The only group in which a number indicated that they had planned to enter the field or had done so because they were highly interested, was the Counselors.

Length of Service.—The majority of all workers studied had been in their present positions less than three years.

Comparison of Personal Characteristics Deemed Important.—

<i>By Coordinators</i>	<i>Deans of Women</i>	<i>Deans of Men</i>
Objectivity	<i>Sincerity</i>	<i>Sincerity</i>
Satisfaction in helping others	<i>Approachability</i>	<i>Understanding</i>
Adaptability	Sense of humor	Satisfaction in helping others
Sense of humor	<i>Understanding</i>	<i>Patience</i>
<i>Understanding</i>	Objectivity	Sense of humor
<i>Patience</i>	<i>Patience</i>	<i>Approachability</i>
<i>Approachability</i>		Adaptability
<i>Sincerity</i>		Broad-mindedness
<i>Counselors</i>	<i>Directors of Activities</i>	<i>Director, of Admissions</i>
<i>Sincerity</i>	<i>Sincerity</i>	<i>Sincerity</i>
Objectivity	<i>Understanding</i>	Self-confidence
Warmth of personality	Sense of humor	Adaptability
Pleasing personality	Objectivity	<i>Understanding</i>
<i>Approachability</i>	<i>Approachability</i>	<i>Patience</i>
<i>Understanding</i>	<i>Patience</i>	Pleasing personality
<i>Patience</i>	Adaptability	Satisfaction in helping others
	Self-confidence	Sense of humor
		Objectivity

Sincerity, patience and understanding appear in all six of these lists. Objectivity appears in five of the six, sense of humor in five, adaptability in four and satisfaction in helping others in three. Those are some of the "common" elements; a comparison of the lists reveals others that may be unique for that group. There obviously is great need for studying educational personnel jobs and discovering some of the personal and professional qualifications essential to success. The Committee is not convinced that these ratings are very reliable. It does believe that personal characteristics are important.

Conclusions

It is dangerous to generalize on data derived from such a small number of cases and a sample that is not completely representative but certain conclusions can be drawn.

The "professional" training of educational personnel workers is often not truly professional in nature but Gordon Anderson,

Committee member, made a significant observation when he wrote to the Chairman:

The training effects of experience cannot adequately be reflected by canvassing previous training of personnel workers who may be leaders in the field today. We find that previous training and experiences, which we have had, to be useful in one way or another and there seems to be a strong tendency to want to impose this same pattern on others:—it is impossible to evaluate the possible usefulness of training and experiences that one has not had.

W. W. Blaesser, Committee member, last year made what Clifford Froelich⁴ would classify as External Criteria Evaluation of student personnel work being done in the member colleges of the Western Personnel Institute. Blaesser will discuss evaluation during the ACPA meeting Wednesday morning so the Chairman will refrain from commenting extensively, but it is pertinent to remark that after the survey was completed he was of the opinion that the colleges had a tendency to overrate themselves.

In the study which is reported on today members of the Committee found, however, that many educational personnel workers did *not* indicate ideal, graduate training as being the area which they had studied. A great many of the people interviewed indicated that Education, Psychology or Personnel would be desirable graduate majors. The same subjects were mentioned, as well as guidance, counseling, testing and statistics, when these individuals were asked "what special courses are deemed desirable." Committee members agree that some college administrators did not see the need for training student-personnel workers.

It appears that many college personnel workers who do not have training for their jobs recognize the lack of it and the desirability of providing it for individuals who enter that field. The worker may feel that he is doing reasonably satisfactory work, because he has learned on the job, but he recognizes the need for professional training. Deficiencies in training and qualifications mentioned most often are insufficient or inadequate training or experience. This is not surprising when one re-

⁴Froelich, Clifford. *Evaluating Guidance Procedures, A Review of the Literature*. Washington: Federal Security Agency, Office of Education, 1949.

flects on the statement that the most common reason given for entering student-personnel work was "requested to do so by President or Dean." The fact that so many people gave this as their reason is no reflection on them and may indicate excellent personnel selection by the administrators; it certainly is an indication of the fact that there has been a great demand for educational personnel workers during the past few years and that there has been a shortage of supply. The fact that so many college personnel workers indicate high-school or college teaching as a common area of work experience prior to entering their present position, and that they consider this desirable, is significant.

The fact that the majority of personnel workers interviewed had been in their present positions less than three years is an indication that many individuals have been recruited for this work comparatively recently. Perhaps this is the reason for the wide variations reported in duties performed and for some discrepancies between titles of personnel workers and the jobs which they do.

Recommendations

1. The Professional Standards and Training Committee recommends that a job analysis be made of the work being done by a carefully-selected sample of student-personnel workers. Job descriptions might be used as a basis for establishing ideal standards for various personnel jobs.

2. It is recommended that ACPA encourage several colleges and universities, which are included in the job analysis study, to evaluate their counseling services over a period of several years.

3. It is recommended that ACPA prepare reports of job descriptions, evaluations and standard job titles and make them available to college and university administrators. It seems obvious that professional status cannot be hoped for until college presidents recognize a standard job title and description. The teaching profession, too, is confused by the "Babel of tongues." How can we expect the general public to understand our work when it is so chaotic? It is suggested that the nature of student personnel work and qualifications of workers be discussed at meetings of college Presidents.

4. When reports on standards of training and qualifications of college personnel workers become available, it is recommended that they be sent to appropriate officials—the Presidents of colleges and individuals who are engaged in the training of personnel workers.

5. It is recommended that the terms “counseling” and “guidance” be defined so that members of our “profession,” individuals engaged in training personnel workers, college administrators and faculty members may use the words wisely and well. Some standard terminology is basic to the development of standards in training and practice.

ONE PHASE OF HIGH SCHOOL-COLLEGE RELATIONS

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SINCE "Bridging the Gap Between Secondary School and College" is a rather broad subject, it seemed wise to focus our attention on a single phase of the problem, namely, high school-college relations. In so doing, an attempt has been made to point out a few ways in which colleges may be of assistance to high schools in serving their college-bound students.

Before undertaking any discussion it may be well to clarify, or restrict, the meaning of the term "high school-college relations" as used in this paper. A letter of inquiry was sent out recently to some fifty western colleges in which directors of admission were invited to describe features of their respective high-school relations programs which might prove of interest to this assembly. Furthermore, they were asked to submit publications which had been found useful to prospective students. Judging from the replies and the publications, far too many directors of admissions think that high school-college relations begin and end with student recruiting. This discovery was somewhat disturbing because this practice needs to be reduced to a vanishing point in any constructive high-school relations program.

On the other hand, certain replies were encouraging, for they indicated that, at least among a considerable number of college people, recruiting was falling into disrepute. "Precollege guidance" suggests more accurately the methods now being used by some of these institutions.

You may well ask, "What is the difference between 'recruiting' and 'precollege guidance'?"

In recruiting, a college competes through pressure techniques for the enrollment of a desirable student. He may be desirable as a fullback, an oboe player, or as a scholar. The reason is immaterial. The tragedy in the situation is that little attention

is given to the student's aptitudes, interests, or background as they relate to the college and its program. The student is treated as expendable.

The primary objective of all high school-college relations should be to promote student welfare. Thus, the student and his future become the first considerations in precollege guidance rather than the selfish interest of the college. A sincere effort is made to guide the student towards matriculating into a college which can offer him a challenge and which can develop his aptitudes and interests, while at the same time is in keeping with his family background and his economic status. Ideally, the high-school counselor and the college representative should share in bringing the salient features of the situation before the student and his family. The decision rests with them.

"Now," you say, "suppose two or more colleges are equally able to meet these requirements. What then?" The fact still remains that recruitment and precollege guidance are fundamentally two different means of dealing with high-school students. They do not merely represent the difference in degree by which college personnel workers may vacillate according to the times—whether hard or prosperous. The answer is this: Every student seeking help on the choice of a college has a right to expect the same objectivity and sincerity on the part of the high-school and college counselors in this as in all other situations. This requires as complete an elimination of recruitment as is humanly possible.

We assume responsibility for the satisfactory orientation of students in college when we accept their welfare as the objective in high-school relations. There are many young people who, given the chance, would profit immeasurably from college experience. There are others who should never have enrolled because of their inability to adjust to the demands of higher education. In order to eliminate such unnecessary disorientation preventive measures must be taken in high school, long before the situation becomes acute on the college level. High schools and colleges must cooperate in carefully timing a joint attack on the orientation problem before the students' post high-school plans have crystalized.

The cooperative attitude is so essential to success in all

phases of high school-college relations that it may be considered a basic principle. This relationship is a two-way, give-and-take proposition, involving the exchange of information, a sharing of responsibility, and an equal opportunity for initiative, with neither participant attempting to dominate the other.

Since I am expected to describe developments in the western states, I should like to cite a few examples of what is being done cooperatively in this area to promote the more satisfactory orientation of students in college. The advances made recently in such cooperative programs as statewide testing and the in-service training for counselors are significant enough to warrant devoting an entire session to them alone. As a matter of fact, I believe Dean Cole plans to develop this point in his paper. This type of project exemplifies good high school-college relations in that mutual responsibility is required, dividends are shared, and in the final analysis, the greatest benefits are dealt to the student.

Among the publications submitted was a booklet entitled *You'd Like to Teach*. The committee responsible for this publication of Central Washington College of Education eliminated almost entirely propaganda about the college itself. Illustrations of other Washington institutions were used and the field of secondary education was included, despite the fact that the college was not at that time training high-school teachers. The book is being widely used by high schools as a source of information about the teaching profession. Such selfless contributions as this are commendable.

An interesting departure from routine high-school relations is Dr. Merle Kuder's experiment in selective teacher recruitment at Western Washington College of Education. High-school principals in the locality are asked to nominate a given number of "superior juniors," superiority being defined in this case in terms of those qualities conducive to success in teaching. These juniors are then invited by the College and by the high school jointly to thoroughly investigate teaching as a career. The opportunity is one of a project in career study, not one of selling teaching as a vocation. The experiment involves the following steps:

1. A day on the campus of a teacher-training institution.

Emphasis is on the teacher at work which gives the student firsthand information through observation of what is gained from professional teacher's training. It is not a day spent in listening to lectures.

2. Follow-up during the senior year by the high-school counselor or teacher with small group meetings, personal contacts with teachers, administrators, and specialists, and exposure to selected literature and films.

It is too early to know the results of this experiment. However, there is already some evidence that, as a result of this experience, a number of these superior youngsters are planning careers in teaching who would not otherwise have done so. In many instances, the elimination of the common prejudices about teaching and an understanding of some of its intangible rewards have been sufficient to motivate serious consideration of teaching as a career.

This is just one of the devices being used to attract the right students to college: visits to campuses by high-school honor students; department-sponsored conferences, clinics, festivals, etc.; open houses; college-sponsored programs in high-school assemblies; and many others too well known to need elaboration. These are all legitimate and valuable, providing the college planning committee keeps the specific objective of the particular program foremost and does not allow the occasion to degenerate into a convenient vehicle for selling the college.

Many high-school principals are following-up their graduates who enter college in order to obtain information which might be helpful in revising the curricula and guidance services in their high schools. Colleges cooperate in this activity by presenting progress reports on the students to their former principals and by arranging conferences for them. In these conferences, the college students state to their former principals their reactions to college life and the principals in turn report their comments back to the college personnel officers. Through these reports, high schools can improve their preparation and colleges can strengthen weak points in their orientation of new students.

Mr. Hiram Edwards, Director of Relations with Schools at the University of California and Secretary to the Committee for the Study of Education, was extremely gracious in pro-

viding material for this discussion. In spite of the information given me, I feel unqualified to describe in great detail the accomplishments of the Committee. I shall, therefore, be brief and trust that some Californian will contribute additional information during the discussion period.

This Committee for the Study of Education is composed of representatives from the State Board of Education and from all educational interests, elementary through university, both public and private. It acts in a steering capacity and leaves the actual work to sub-committees of experts. One sub-committee recently completed a report on the articulation of foreign language study. Others are working on such problems as general education, accreditation, admissions, uniform course names and numbers, conservation education, mathematics-education, and a combined high-school transcript and counseling blank. Its annual report appears in *California Schools*, a monthly publication of the State Department of Education. Financial support is derived from participating professional associations and from such sources as the Rosenberg Foundation. Although the work of the Committee for the Study of Education extends beyond the scope of our assigned topic, the professional character of its program and its bearing on high school-college relations is noteworthy.

Now I should like to describe the Interstate Council on High School-College Relations as it developed and operates in the states of Oregon and Washington. In outlining its history and progress, I have drawn frequently from the Foreword to *Mapping Your Education*,¹ a book published by the Interstate Council. For permission to do this, I am grateful to the co-editors, Dr. Merle Kuder, Director of Student Personnel Services at Western Washington College of Education, and Mr. Douglas McClane, Registrar and Director of Admissions at Whitman College; both men were instrumental in the formation of the Interstate Council.

In Oregon and Washington, as in other parts of the country, educators have for many years been discussing closer cooperative relationships between high schools and colleges. Various

¹ Merle S. Kuder and Douglas V. McClane. *Mapping Your Education*. (Portland, Oregon, 1947.)

programs were developed in different sections of the Northwest which took the form of college-day conferences, college guide books, and a number of other enterprises.

After the war, groups and individuals representing a variety of educational interests "raised the question of whether it would be possible to unite dissociated efforts and form one over-all organization which would function with perspective and effectiveness."² After considerable exploratory work, a meeting was called in Portland in October, 1946. The group of delegates decided that there was much which could be accomplished in association and agreed to assume responsibility for cooperative activity. "It, therefore, organized itself as the Interstate Committee on High School-College Relations."³ (Recently, the term "Council" has replaced that of "Committee" as part of the title.)

The Council is now composed of 22 members, equally divided between the two states as follows:

Oregon High School Principals Association.....	4	delegates	
Washington High School Principals Association.....	4	"	
Oregon State Department of Education...	1	"	
Washington State Department of Education.....	1	"	
The State Universities of Oregon and Washington.....	2	"	(1 each)
The State Colleges of Oregon and Washington.....	2	"	(1 each)
The accredited private colleges and universities of Oregon.....	2	"	
The accredited private colleges and universities of Washington.....	2	"	
The accredited private high schools of Oregon and Washington.....	1	"	
The public junior colleges of Washington..	1	"	

The fact that there is equal representation from each of the two states allows for either half to operate independently on matters of concern in a single state, or, to act together as a Council-of-the-whole when there is mutual interest. The entire group gathers for an annual meeting each January. An executive

² *Ibid.*, p. iii.

³ *Ibid.*

board and sub-committees meet in the interim to implement plans outlined at the annual meetings.

The Council functions as a consulting and recommending group to coordinate the thinking of both the college and secondary school levels on various common problems. These functions are dictated by the nature of the problems rather than by general constitutional procedure. However, the Council may initiate and support activity of common concern to the high schools and colleges of both states.

The Interstate Council is prepared to consider and promote only such activities as are of concern to both public and private education on both the secondary and higher levels. It assumes responsibility for projects of mutual concern which may be delegated to it by any element of the organizations and institutions its membership represents, or by official agencies of other recognized educational interests in Oregon and Washington, or for projects which it, as a Committee-of-the-whole, may devise. . . . Before undertaking a major project, committee members obtain the approval of the institutions or organizations they represent.

The Interstate Council recognized and emphasizes (1) that its function as a Committee-of-the-whole is only that of a coordinating agency; (2) that the members of project-working committees are not necessarily limited to the twenty-two delegates constituting the personnel of the Committee, but, rather, (3) that in the name of the Interstate Council, many different qualified persons from the high schools, colleges, universities, and departments of education of Oregon and Washington may be called upon to serve on working sub-committees of the Interstate Council.⁴

There are now Interstate Council sub-committees responsible for the high-school visitation program in each state. Together they formulate a bi-state schedule of visits to areas where high schools desiring to participate are located. From this point onward, the two sub-committees operate independently, since there are some variations in the two state programs.

I should like to digress a moment in order to explain how the joint visitation program came into being. About fifteen years ago the principals of southwest Washington expressed dissatisfaction with the recruiting done in their schools by representatives of northwest colleges. They objected to the recruiting and also to the continual disruption of spring semester classes by

⁴ *Statement of Principles of the Interstate Council on High School-College Relations*, January, 1949.

marauding representatives. Lesser men would have merely closed their doors. To overcome this undesirable practice, the principals conceived the idea, later adopted and refined by the Interstate Council, of having joint high-school visitations. Interestingly enough, it was the principals who first recognized a need for special help on the part of college-bound students; also, it was they who initiated a plan which became the solution to their problem. Incidentally, the colleges are to be credited in that they refrained from imposing a program of their own, and chose to assist in the cooperative development of a conference plan which has been found reasonably satisfactory to all concerned.

In Washington, the visitation group is composed of representatives from both public and private institutions of Washington and private colleges of Oregon. The representatives travel together and stop at strategically located host high schools according to a prearranged schedule set by the subcommittee. On the appointed day seniors from the host as well as from neighboring schools gather for conferences with the college representatives. Each student attends three 30-minute group conferences. Even though he may have already decided upon his college, he is required to visit conferences held by the representatives of the three colleges in which he is most interested. The reason for this practice is that exposure to various educational points of view, as expressed by colleges of different types through their representatives, is considered important in the educational planning of any serious student. At the conclusion of the third group-conference period, students are free to circulate among the representatives to gain further information through interviews.

Prior to the conference, each representative is provided with a confidential personal data sheet for each student who indicated an interest in that particular college. On the data sheet is found the usual personal information plus the student's fields of vocational interest and, most important, the counselor's estimate of his probable success in college. This prediction may be expressed in one or more of the following ways: grade average, rank in class, test scores, or a rating scale. However expressed, it enables a qualified representative to do as much constructive guidance as time permits.

When representatives of small private colleges find only a few interested students, they may complete their conferences early and be free to lead discussions in freshman, sophomore, or junior classes. All representatives are prepared to accept, on short notice, such invitations from host principals. These discussions have proved helpful in stimulating younger students to think more seriously about career planning, vocational choices, aptitudes and interests, etc. Reference to specific colleges and any undue emphasis on the desirability of a college education for *all* students are studiously avoided.

One can easily imagine a conference being something of a Roman holiday, and so it could be. The value, or else the confusion derived from this information service (and it is this, rather than either counseling or recruiting), depends entirely upon the effectiveness of the high-school counseling and guidance program. Experience indicates the necessity of adequate preparation and follow-up by the high-school staff. Without this, more harm than good may result.

The freedom of students to return after the group conferences to ask questions of representatives serves as a check on any unindoctrinated representative who may join the visiting group. High-school students have a peculiar sensitivity to extreme statements, and they seem to take pleasure in repeating them for people who are sure to be interested. It is this tendency for "word to get around" which keeps the conferences and interviews on a surprisingly high ethical plane. Students have criticized the visiting group before their high-school counselors on the grounds that the representatives did not seem sold on their own colleges. The colleges accept such statements as complimentary.

In Oregon there are two series of high-school visitations, one for the state system and one for the independent colleges. The latter band together and, in company with representatives of a number of independent colleges of Washington, operate along the lines of the Washington plan just described. The Oregon State system of higher education has a single visitor who represents all of the state-supported institutions. Recently, however, a representative of the state colleges of education has been accompanying him to promote interest in teaching as a profession.

The foregoing discussion of high-school visitation serves to illustrate projects on which the Oregon and Washington sections of the Interstate Council operate more or less independently. The book, *Mapping Your Education*, serves to illustrate the cooperative effort displayed by the Council as a whole. From the book's foreword I quote:

The proposal to publish a guidebook that would be useful to high school students, counselors, parents, and others interested in planned education had its incentive in the fact that small booklets had been published in the past by high school-college interests in both Oregon and Washington. A booklet entitled *Mapping Your Education* originally was prepared in 1941 at the request of principals in Southwest Washington by a group of college registrars, including several members of the new Interstate Council. The success of this booklet indicated that a larger and more comprehensive publication should be prepared in response to widespread recognition of similar demands in other areas.

Agreed upon as basic by the Interstate Council were the principles (1) that such a publication should be undertaken jointly by high schools and collegiate institutions; (2) that the best thinking from both interests concerned should be incorporated in the book; and (3) that the cost of publication should be shared. Accordingly, the Plan of Part I and much of its subject matter are based upon the returns from a Composite Judgment Sheet circulated among all high schools and collegiate institutions in the two states. Cost of the publication was met by the purchase of space by participating colleges and universities and guaranteed subscriptions from cooperating high schools. Further, it was agreed that the proposed book must be attractive in format and readable by high school students. Finally, it was agreed that the publication should consist of two parts: one, a carefully developed program of educational planning for high school students on a basis of realistic self-guidance; and two, concise, uniform presentations of facts submitted by the collegiate institutions of Oregon and Washington, concerning the educational opportunities each affords.

In every college and university there are students who might have been better served by going elsewhere—to a different college or directly into employment. Every high school, college, and university recognized this condition and would eliminate it if possible. *Mapping Your Education* is published to provide high school students and those who advise them with a basis for the sound educational planning which can avoid this kind of dislocation.

Although this book expresses much fundamental agreement on the nature and requirements of educational planning no

publication undertaken on a cooperative basis could reflect complete unanimity at every point. It should, therefore, be clearly understood that the high schools and collegiate institutions which have cooperated in making this publication possible may not fully subscribe in every detail to the points of view expressed in Part I. In Part II, however, each collegiate institution presents its own descriptive statement.

Over-all responsibility for the preparation of *Mapping Your Education* was assigned to the co-chairmen of the Interstate Council: Dr. Merle S. Kuder, Director of Student Personnel Services, Western Washington College of Education, and Mr. Douglas V. McClaine, Director of Admissions and Registrar, Whitman College.⁵

The six chapters of Part I are as follows:

Is This Book For You?—in which the reader is informed that this is not a book to curl up in a corner with, but one which will require an expenditure of time and energy.

Planning Your Life—in which the responsibility for setting the direction is placed squarely on the shoulders of the student.

Planning Your Career—after pointing out a few of the pitfalls frequently encountered by young people in career planning, the authors direct attention to self-analysis and vocational analysis.

Education—What Is It?—the distinction is made between education and schooling. The various types of schooling available to a high-school graduate are then described.

College or Not—the authors first point out the fallacy in some of the most common reasons given by students for attending college. Then there is a discussion of what one may expect to find in college, what one may expect to achieve, and what it takes to be successful in college.

Choosing Your College—more pitfalls are cited, this time in relation to the choice of a college. This is followed by a presentation of criteria useful in selecting a suitable college.

The student is led step by step through a process of self-analysis to a point at which he is encouraged to do one of two things: eliminate college as a suitable objective or think seriously about selecting one which will fulfill his needs. This brings the reader to Part II which includes a section on the

⁵ Kuder and McClaine, *op. cit.*, pp. iii-iv.

following topics for each of the thirty-eight colleges of Oregon and Washington:

"General Information"	"Admissions"	"Student Personnel Program"
"Accreditation"	"Costs"	"Life Outside the Classroom"
"Types of Training Offered"	"Opportunities to Supplement Cash Resources"	

At the present time, the Council is considering a revision of *Mapping Your Education*. Already the suggestion has been made that a glossary of college terms be included. There has also been some demand from the high schools for a syllabus or work-book for use with the volume. A second edition may have a less expensive binding, since there is some question as to whether or not the high schools will replace books which are still in usable condition.

This discussion of the Interstate Council and its projects will serve to illustrate its functions. The Council realizes that it has only scratched the surface and that there is a certain superficiality about its accomplishments to date. Nevertheless, the organization is unique in that it transcends state lines, institutional differences, the profit motive, and student recruiting practices.

Before the current school year is over, the colleges and high schools of Oregon and Washington will be asked to contribute a modest sum to support the work of the Council. The response to this request will determine the future of the organization. If it is given the green light, it may have the courage, and ultimately the staff, to attack more fundamental problems such as those undertaken by the California Committee for the Study of Education.

It is interesting to note that the members of the Interstate Council had been operating informally for some time before they were organized. The visitation program developed spontaneously as did *Mapping Your Education*. No faction of the organization has ever tended to impose upon or dominate another, and the welfare of the student has always been its primary concern.

Time has limited us to a series of rather brief sketches. I wish it were possible to say something about adding spice to

college catalogues, (which are usually insufferably dull) and deglamorizing some of their other publications.

High school-college relations is an area of service which is still in a nebulous stage. On most campuses the various projects connected with this sort of work have usually been distributed among several different offices with little coordination and long-range planning. Recently, however, some institutions have established high-school relations offices which are independent of such divisions as admissions, public relations, and student affairs. This trend indicates that high school-college relations are becoming more clearly defined in their development. Regardless of the organization and administration of these offices, the same principles of student welfare, cooperation, and service are fundamental. Colleges which confine their high-school relationships to recruiting may rest assured that they are receiving something much less than 100 per cent cooperation from their constituent high schools. Furthermore, they may expect downright resistance from the high schools who have enjoyed the fruits of real cooperative endeavor.

SECURING FACULTY COOPERATION IN THE STUDENT PERSONNEL PROGRAM

D. W. AIKEN

Director, Student Guidance, Mississippi State College

In-service Training of Faculty Counselors

THIS paper is concerned primarily with some of the methods used in securing faculty participation in the student personnel program at Mississippi State College. This institution is the Land-Grant College for Mississippi and has five divisions or schools; namely, Agriculture, Business, Education, Engineering and Science. The total enrollment of 3600 is predominantly male with only 120 females in attendance. Since this College has not had a completely organized Student Personnel Program, the discussion will concern faculty cooperation in counseling rather than the entire program.

An organized program of student counseling at this College is in its infancy since it was inaugurated as recently as the fall semester of 1945. In its inception the efforts of the Administration were directed towards a gradual and continuous development rather than an attempt to launch a full-scale program in the beginning. This procedure seems to have been wise and has resulted in a sound program. It has grown gradually as the Faculty developed through experiences in implementing a sound and conservative organization for rendering aid and assistance to students in solving their various personnel problems.

The enrollment of this institution, like other colleges and universities, increased in the post-war period to the extent that all facilities of the College were taxed to the limit. The increased enrollment resulted in large classes accompanied by heavy teaching schedules for the Faculty.

The Student Personnel Program was given emphasis by the establishment of the Veterans Administration Guidance Center on the campus in June, 1945. The results and success of this

center have tended towards the promotion of counseling on the part of the Faculty by demonstrating the values obtained from counseling of veterans.

At the suggestion of the President of the College the Faculty of each of the five Schools inaugurated a study of the needs for an organized program of counseling for all students. As a result of this study each school selected one faculty member to serve on a Counseling and Testing Committee for the College.

This Committee was given the responsibility for recommending to the Faculty the type of program that seemed to be best suited to the facilities of the College and the needs of its students. The plan submitted by the Committee was approved by the Faculty and administrative authorities of the College. The organization and administration of the program were assigned to this Committee with the Chairman serving as chief administrative officer. All records and correspondence were routed through this central office, which tended to coordinate the counseling functions of the Faculty.

The Committee inaugurated the first orientation program for all entering freshmen, in January, 1946. Numerous data were collected on each new enrollee prior to his official registration, including personal information, tests results, counselor sheets from admission blanks, and the high-school transcript. Six tests of aptitude, interest and achievement were given to each student during the orientation period. The results were interpreted by members of the Counseling and Testing Committee for the student prior to his selection of a school or major area of study, and official registration. Refresher courses in English and mathematics were recommended to students on the basis of the results of the English and mathematics tests. Registration advisers utilized these data in scheduling the first-year students.

Immediately after registration the student was assigned to a Faculty Counselor, with a maximum of 15 students to each Counselor. The Counselors were selected from the various Schools by the Counseling Committee and the Deans on the basis of interest, experience, training, personality and willingness to assume these extra responsibilities.

Experience seems to indicate that the Faculty at Mississippi State College were of three types insofar as training and attitude toward student counseling were concerned, namely:

1. Those with a definite interest and a student personnel point of view, yet limited in training and experience in counseling.
2. Those whose general knowledge and interest in counseling were limited, yet who were receptive and sympathetic toward the program.
3. Those whose superficial knowledge of the purpose and objectives of counseling and whose educational philosophy resulted in definite opposition and skepticism toward the program. This group seemed to adhere to the philosophy that the only purpose of higher education was to impart subject matter in specific courses.

The first two groups have proven to be the most fertile sources for obtaining faculty advisers and counselors. However, some converts have been recruited from the third group. This followed, as knowledge of the function and purpose of counseling was obtained by the group through contacts with other faculty members who were cooperating in the program.

The Freshman Counselor had responsibility for assisting students in the solution of the minor or routine problems that developed from time to time during the student's first year of enrollment. Some of the responsibilities of these Counselors were as follows: Course selection and registration, activities, clubs, scholastic difficulties, and financial problems. Major problems of the students were usually referred to the members of the Counseling Committee. Upon the completion of the freshman year the student was transferred to a major adviser, usually a Department Head or Associate Professor in the student's major field. This major adviser has responsibility for the student during the last three years of his enrollment.

Among the major problems encountered in the selection of the Counselors was that dealing with offering additional salary or decreased teaching load to those participating in the program. In the beginning the Committee was inclined to believe that an increase in salary or a stipend for participation as a Counselor was more desirable, and plans had been formulated to follow this procedure in 1948-49. However, some opposition

developed to this procedure from several sources. The chief argument against it was that instructors are assigned full teaching loads and the addition of counseling duties would probably mean that either instruction or counseling would be neglected. Others pointed out that paying additional salary for counseling duties would not necessarily result in the faculty member functioning as a Counselor. Some stated that those faculty members who did not participate in counseling would be dissatisfied because of the salary differential among members of the same academic rank, and the non-counselors would eventually secure salary adjustment comparable to that of the counselors with similar rank.

The problem of salary increase or decreased load for performing counseling duties was presented to the fifty Faculty Counselors for consideration. After some study, the group recommended that the Faculty Counselor's teaching load be decreased where feasible and practical rather than increase the salary. This decision is one indication that the counselors realized that time is needed to aid the student in solving the problems encountered in college. This procedure has been followed during the current year with relatively little difficulty.

The experiences in selecting and supervising the Faculty Counselors lead to the conclusion that *interest in aiding students* rather than an increase in salary or a decreased teaching load is the major motivating factor in determining the success or failure of the Counselor. There seems to be little relationship between the age or teaching experience of an instructor and interest in aiding students through counseling. It seems safe to assume that the apparent lack of experience, and knowledge of counseling, regardless of the age of the instructor, were the dominant factors which influenced instructors to display a negative or uncooperative attitude towards counseling.

Plan for Training Counselors

Assuming that the lack of interest in student counseling is due in part to deficiencies in training and experience, the next step obviously was to devise plans and procedures for acquainting the Faculty with the underlying philosophy of counseling and to implement means for giving some experience and training to all prospective counselors.

An in-service training program was instituted by the Counseling and Testing Committee of the College during the early stages of the program in 1946. The Faculty Counselors met frequently under the leadership of the Committee to study the procedures and techniques of counseling. These meetings tended to emphasize the fact that the Faculty Counselors needed considerable information and training in order that they might perform the functions required of successful Counselors, since many did not know how to proceed, and yet were reluctant to admit it.

Several plans for giving additional training were considered, namely: (a) Summer study by faculty members at other colleges or universities, (b) Granting leaves to key personnel during regular session, (c) Offering an intensive course during the summer on the campus for the Faculty.

The first two plans did not appear to be a solution to the problem since only a few individuals could study through these procedures. Since the College was not in a position to finance graduate study for its Counselors, and the majority of the Counselors' chief pay-roll job was teaching, these individuals would have been reluctant to spend a summer in the study of work which was of secondary consideration to them, at least from a financial standpoint. Therefore, after due consideration was given to the procedures for developing the Faculty in counseling abilities, it was decided that plan three would serve most effectively the needs of all the counselors. Therefore, definite plans were made for organizing and developing a course on the campus of Mississippi State College.

The first course for the Faculty Counselors was held during the summer of 1948. This was a six-weeks course on the graduate level, meeting one and one-half hours per day, five days per week. All fees were waived for College employees and approximately 50 per cent of the 46 members enrolled in the course registered for credit regardless of the fact that many held advanced degrees. The registration for credit resulted from a desire on the part of the faculty members to have the course made a part of their official records.

The group was composed of Freshmen Counselors, Department Heads, Major Advisers, and members of the Counseling and Testing Committee. The Academic Deans met with the

group, as their duties permitted. Each School of the College, and the majority of the Departments were represented.

Two specialists in the field of student personnel work were secured as leaders or instructors for the course. Dr. Donald E. Super, Columbia University, taught the course for the first three weeks, and Dr. Fred McKinney, University of Missouri, was in charge for the last three weeks. Using two instructors resulted from the inability to secure either of the leaders for the full six weeks. However, this procedure has many advantages among which is the utilization of the leadership and philosophies of more than one instructor.

The faculty enrollees in the course were selected by the Academic Deans in cooperation with the Chairman of the Counseling and Testing Committee. Each instructor selected was interviewed by his Dean to determine whether he desired to participate in the course, and enrollment was on a voluntary basis. Two sections per day were organized in order that conflicts with teaching schedules might be prevented.

The first two meetings were utilized by Dr. Super as a conference in developing the topics to be discussed in the course. The problems as suggested by the members were classified into four areas, (1) Administrative, (2) Establishing and Handling a Counseling Relationship, (3) Problems of Diagnosis and, (4) Problems of Counseling and Orientation.

Most of the topics were discussed by the group with the leader supplying pertinent points and summarizing conclusions. In many instances, however, all information was supplied by the leaders.

The majority of the enrollees in this course were faculty members who were employed on a nine-months basis with provision for additional salary for teaching in the summer session. Twelve semester hours were considered as a full teaching load, which was necessary for full salary during the summer. If an instructor did not have a full teaching schedule, the enrollment in the counseling course was considered to be 25 per cent of a full load. Thus an instructor who was assigned only 75 per cent of teaching time could draw full salary for the summer through participation in the counselor course. For those who had a full teaching load or were employed on a 12 months basis a small stipend was given each individual who enrolled and participated

in the course. Approximately 90 per cent of the group were teaching a full schedule or were on a 12 months basis, and, therefore, drew the additional salary. This plan resulted in full attendance at all meetings of the course. It was generally understood that the enrollees in the course would be expected to assume counseling responsibilities during the 1948-49 session of the College. The group served as a nucleus for obtaining counselors for the 500 Freshmen who enrolled in September, 1948.

The summer course has been followed by holding monthly meetings of the counselors to exchange experiences and to discuss possible solutions to the problems encountered during the year.

This experiment in developing Faculty Counselors and securing faculty cooperation in the student personnel program has proved to be successful and worthwhile in this particular College. Some instructors who enrolled in the course were doubtful as to its outcome. Others who entered were not entirely in sympathy with the student personnel point of view, yet as knowledge was obtained relative to the purposes and techniques of counseling, these individuals apparently became completely sympathetic towards the work. The effectiveness of the whole program here leads to the conclusion that the summer course was entirely successful. Consequently, this procedure will be followed during the summer of 1949. Two groups will be organized, one, an advanced class for those who participated in the 1948 course, and the other for instructors who have been employed during the year or were not enrolled in the previous course.

Another value derived from the experiment in 1948 has been the appointment of a Student Personnel Committee to study and develop a comprehensive student personnel program to include all phases of student life exclusive of the academic and business phases. The Faculty is receptive to the student personnel organization since experience with the present counseling program has demonstrated a real need for coordinating all areas of student activities. The organization of a student personnel program has been made much easier as a result of the training course for Faculty Counselors which pointed out the functions and values to be derived from this program.

THE FACULTY ADVISORY PROGRAM OF THE OHIO STATE UNIVERSITY COLLEGE OF EDUCATION

L. L. LOVE

Junior Dean and Coordinator of Student Personnel, College of Education,
Ohio State University

WE have about 3200 undergraduates in the College of Education of the Ohio State University. Each of them has a faculty adviser. We believe that, on the whole, the faculty advisory program is successful. I shall attempt to tell you how the program operates, something of how it came into being and the problems we met in developing it, some of the procedures we follow which we think help make it work, and some of the yet unsolved problems.

A few words of explanation of the setting in which we operate seem necessary before discussing the advisory program itself. We accept beginning freshmen in the College of Education and the University is required by law to accept graduates of Ohio Class A High Schools. Selection in the College is a continuous process, about which a little more will be said later. Of course, we get large numbers of transfer students. I shall not discuss the early advisory program for them. We have reasonably adequate ways of getting them "on the track."

One further point must be mentioned. The Junior Dean and Coordinator of Student Personnel heads up the total personnel program of the College, including of course, the faculty advisory program. He is also the liaison person with all the other personnel services of the University, and the College uses them extensively. The faculty advisory program is difficult to isolate for descriptive purposes because it is not a fifth-wheel organization. It is closely knit into the total personnel program. Moreover, it should be clear a little later that we find it impossible at many points to draw a dividing line between personnel and instruction. We want it that way, even though it is difficult to make a diagrammatic chart of the personnel program of the College.

Each freshman student is assigned to a faculty adviser as soon as he enters the College. The adviser has this student and 18 to 20 others in the required five-credit hour orientation course. For this phase of the program, at least, there is no problem of advisory work being an "extra." This course and its attendant responsibilities count full value on academic load. We attempt, not always successfully, to give a staff member not more than two of these groups in any one year in order to prevent too heavy a load of advisees.

Students are assigned both homogeneously and heterogeneously. In what we call "secondary academics" we mix English, Science, Mathematics, Language, and Social Studies majors indiscriminately. We have been over all the arguments, pro and con, for each plan. To us, the evidence is not clear-cut, one way or the other. In our situation there are circumstances which seem to make necessary the use of both plans. They work equally well. The theoretical objections to homogeneous grouping are not borne out in practice.

In this course with about 20 students the adviser follows up the Freshman Week Program with the usual things expected of an orientation course, such as study skills at the University level, orientation to the University, social living, extra-curricular activities, and the like. Intensive attention is given to orientation to teaching—what it is like, supply and demand, desirable teaching combinations, etc.

The very heart of the course, however, is planning in terms of the things to come. We have a continuous selection program with certain rather formal check points, the first of which is admission to Junior Standing. Students must demonstrate certain competencies at that time. To us it makes sense that students know where they stand on these competencies in their first quarter in the College.

They must have adequate classroom speaking voices, so they are checked on voice quality and speech usage. They must be able to express themselves well enough in writing so that they will not later disgrace themselves before a class, so their writing skills are observed. They must have certain kinds of field experiences, so what they have had before coming to the University is evaluated. They must have a reasonable knowledge of current affairs so they take a *Current Affairs Test*. They must

have a background of general information, so they take the *Cooperative General Culture Test*. They must come up to certain standards of physical and mental health, and the University Health Service checks on these points as a part of the entrance physical examination. All this, with the exception of much of the health information, as well as other diagnostic information, goes to the adviser. It becomes his very important responsibility to help the student to gradually become ready for the formal mid-point check-up. Various special University facilities and personnel are available to the advisers in this work.

It is obvious, of course, that a considerable number of students enter the College who should never have come to the University in the first place or who should be in some other field than Education. Our advisers are giving more and more attention to guiding such students out of the College in a constructive fashion. The Occupational Opportunities Service, with its testing and counselling, is an invaluable aid here. We are having some success at this point but there is still much to be desired.

One of the most important tasks of the adviser in this beginning course is to rate the student on a comprehensive scale set up in terms of the objectives of the College, the same form that is used later for Junior Standing. Frequently adviser and student do this job together. Working out the rating in this way does much to aid the student in self-understanding. The student's cumulative record folder starts in this course and follows him with any change in advisers.

This program is planned and directed by a College-wide, not departmental, committee. Nothing the College has ever done has been more continuously and carefully evaluated. There are several theses and dissertations on various aspects of the program. One important point cannot be over-stressed. That is the weekly meetings of advisers while the course is in progress. Without this in-service training we do not see how we could even remotely approach what we have done.

Thus far we have the student through his first quarter. If we are going to get him a degree within the next few minutes, we are going to have to accelerate rather than enrich him.

I mentioned the special fields, such as physical education,

industrial arts and music. Students in these areas stay with the same adviser until they leave the University, or shift to some other area. The secondary academics stay with their first adviser four or five quarters, then shift to the instructors of the two-quarter sequence in Principles of Secondary Education for two quarters. At the beginning of the Junior Year, they shift to the College staff member who will teach their special methods courses and supervise their student teaching. Providing continuity in advisers for this group has been our greatest single problem and it is not yet completely solved.

Faculty advisers are very important persons in the College. I can but mention some of their responsibilities in support of this point:

1. Each quarter's schedule must be personally approved by the adviser before it will be accepted by the College Office.
2. Any schedule change other than of a routine nature must be first approved by the adviser.
3. No student is admitted to Junior Standing unless he is given a satisfactory rating by his adviser on a specially designed scale. There is a court of appeal which has been used but once.
4. No student is admitted to student teaching unless he is approved by his adviser.
5. Student petitions for readmission or exceptions to requirements must carry the recommendation of the adviser.
6. Advisers nominate the student members of faculty committees, make recommendations for scholarships and the like.
7. Advisers, through their various organizations, recommend changes in College policy, procedures, and requirements.

The most important organization from the standpoint of making the advisory program work is what we call the Committee of Coordinating Advisers. A Coordinating Adviser is a representative of the advisers in an area, such as physical education, elementary, industrial arts, etc. This group, with the College personnel officers, and chaired by the Junior Dean and Coordinator of Student Personnel, meets twice a month. They take up anything and everything related to the advisory program and how to make it better. The Coordinating Advisers

are a sort of unofficial cabinet for the Junior Dean. They themselves have grown in advisory ability as a result of these meetings, and their convictions as to the value of the program have had marked influence on faculty opinion. One of their important jobs is in-service training of the other advisers in their areas.

There are a number of rather specific factors which have contributed to whatever success this program has achieved:

1. We have given advisers important jobs to do.
2. We have attempted to reduce irritating petty details and paper work to a minimum.
3. We have played up the importance of advisers.
4. We have in-service training programs.
5. We recognize advisory work as part of the academic load.
6. We have been able to get one or two promotions primarily on the basis of advisory ability.
7. The College personnel officers go to almost any lengths to be of service to advisers.
8. Almost to a man, the members of the faculty recognize that the student is the center of the educational process.
9. The results of the advisory program are clearly demonstrable.

Getting to where we are today has meant ten years of the hardest kind of work. We still have some very real problems I can see and probably some I don't see. Among them are:

1. Some advisers have too many advisees.
2. Some advisers are not as competent as they should be.
3. We have trouble at some points in providing the proper continuity of advisory service.
4. Some advisers do not get sufficient credit on their loads for their advisory work. They are therefore either overworked or do not give sufficient attention to their advisory responsibilities.
5. For budgetary reasons we have not been able to staff the beginning orientation course completely in accord with principles approved by the college.

In closing, I want to point out that the faculty advisory program is but a part, though perhaps the most important part, of the College personnel program. I have tried to isolate it as best I can and describe it for you.

SECURING FACULTY COOPERATION IN THE STUDENT PERSONNEL PROGRAM

JESSIE RHULMAN

Associate Dean of Students, University of California at Los Angeles

STUDENT personnel programs are still relatively new as organized, dynamic parts of a University educational program. They bring to a campus persons trained in a profession with which many faculty members are not familiar—one which many of them do not regard as a profession. After all, have not students for many generations managed to get along well without such professional assistance? Have we not as faculty people taken care of the needs of students without professional assistance? This is the prevailing attitude on many campuses today. And those of us who believe that these programs have great service to offer to both students and faculty also know that our efforts will not be successful unless we secure faculty understanding and cooperation.

If we look at the problem from a faculty standpoint and recognize the elements in the situation to which they have resistance we will understand that, were the situation reversed, we should probably feel the same way—because we are human and because we have certain insecurities. If for long we have been giving assistance and advice to students and feel that we have done it well and if we find suddenly that someone else thinks it should be done on a professional basis, and if our own rôle is not made clear, we should be likely to feel insecure and feel that our vested interests were being threatened. The fact cannot be disputed that a teacher knows a student (with whom he takes the trouble to get acquainted) in a different way than a counselor does and that he sometimes has a clearer idea of how the student functions than does a person who does not see the student in action. Suddenly the faculty member may feel that he or she no longer has any part to play in the guidance of the student—even no right to give advice.

Unhappily, this feeling sometimes has an unfortunate result on the attitude of the professional counselor and the persons responsible for the student personnel program. Too often they feel that they are not academically respectable and take on certain of the characteristics of minority groups. Such behavior is fatal to the success of any student personnel program.

Often, too, student personnel programs have been instigated without a clear-cut statement of purpose, without a carefully thought-through plan in terms of the culture of a particular campus, without adequate discussion and consultation with faculty members who know well the temper of the institution. In trying to make ourselves fully adequate professionally we have sometimes made the error of taking ourselves and our plans off to an "administrative corner" and emerging with a full-blown plan for the campus. Without meaning to do so we have surrounded the whole area of student services with an air of mystery. As a result we have made ourselves even more suspect from the standpoint of academic tradition than is usually the case of one who represents something "new" in the academic world.

If we are to succeed as professional people with a professional program we must be aware from the beginning of what faculty attitude may be, of the necessity for changing it, and of the fact that securing faculty cooperation is a matter of education—groups and individuals—of making them cognizant of what goes on, of what the aims and objectives of the program are, and of their own part in it.

Where then do we start? Most of us think best in concrete terms and in the context of our own situations. I am, therefore, going to describe to you the attempts which are being made in our situation at U. C. L. A. to accomplish this all-important task—and which we believe are being reasonably successful.

First of all, the problem of academic respectability was considered. The two persons directly responsible for the administration of the program both have academic rank in the Department of Psychology. Both, by their own request, have teaching assignments. The Director of the Counseling Center is an Associate Professor in Educational Psychology, the Assistant Dean is a Lecturer in Physical Education, the Foreign Student

Advisor is an Associate Professor of English. All are professionally qualified for the jobs they are doing and all have been approved by committees as acceptable members of their respective academic departments.

Next came the drafting of a charter under which the new program would operate. It included not only major objectives but also job descriptions of the principal officers and a statement to the effect that "because the University Student Personnel Program cuts across so many lines and involves working relationships of several types with all colleges and most departments, an advisory committee is recommended." The Provost was asked to appoint this committee to include representatives from the administration of all colleges and schools, from the Departments of Psychology, Sociology, and Physical Education, from the Admissions and Registrar's Office, from the Extension Service and from the Dean of Students Office where the chairmanship should reside.

The major function of this committee is to aid in the formulation of all University policy regarding student personnel work, to advise the office of the Dean of Students in matters which affect the University generally, and to aid in the coordination of services among and between the major divisions of the University. This committee meets about four times during the year. Its members are consulted individually many times. To date its major function has been to discuss which aspects of student personnel belong appropriately to the colleges, which to the departments, and which to the all-University Student Personnel Program. Members of the committee were given an opportunity to express themselves in writing on the matter and then to discuss it fully in an open meeting. Another meeting will be devoted to this topic and then consideration will be given to an evaluation of service rendered to date, and to what the future functions of the committee should be.

In this way the organization and functioning of the student personnel program has been made a part of the thinking of the major administrative offices of the University and of the Chairman of the Departments most directly concerned. Not only have mutual problems been ironed out and information exchanged but the persons upon whom the responsibility for the

educational program of the University rests have been given an opportunity to become acquainted professionally, and to some extent personally, with the new program and the persons responsible for it.

For the Counseling Center, a service department within the jurisdiction of the Dean of Students Office, a similar plan has been followed through, although on a somewhat smaller scale.

To return for a moment to the so-called "charter," all functions of the program were described and all services which it was prepared to render were listed. This document was put in the hands of both the advisory committee and the Counseling Center committee. For example, in describing the scope of the program for the Counseling Center the following items which pertain particularly to the faculty were listed:

- I. To supply professional counseling services to both students with complex educational, vocational, social-emotional problems and personal problems within the normal range.
- II. To cooperate with University faculty members and administrators in helping students to solve their problems.
- III. To undertake case studies and collect information about students in cooperation with other campus personnel agencies in order to determine student needs.
- IV. To provide a central file of pertinent information about students.
- V. To provide services, such as test scoring and aid in constructing and validating course examinations, for those University faculty members, departments, and colleges which request them.
- VI. To conduct special group test programs for departments or colleges, upon request.
- VII. To conduct, and cooperate in, University service research considered to be of value to students and faculty.
- VIII. To cooperate with other University departments and colleges in such community services and research as may be deemed appropriate.
- IX. To participate in the training of graduate students enrolled in the various graduate departments of the University which train personnel workers.
- X. To conduct in-service training programs in various aspects of student personnel work for interested faculty members.

This statement of purpose was made explicit because of a belief that any new major unit on a campus should be carefully integrated with the existing academic and administrative struc-

ture, and so that all members of the University staff might be made aware of existing services from which they could benefit.

A further step in securing cooperation has been the institution of an in-service training program for both Fall and Spring Semesters. These meetings have been held once a week. During the Fall Semester there was an average attendance of between 60 and 70 persons representing all college and administrative offices and many academic departments. The fall program was concerned with the sharing of information of existing student services. All divisions offering such services participate in these presentations. One faculty member said, "I have been on the campus 24 years and I did not know that many of these services were available." In the Spring Term, there have been three seminars—one on "Self-Analysis," one on "Studying the Individual," and one on "Campus and Community Resources in the Adjustment of Individuals." Again there is interested participation from a wide variety of departments and services. The stated objectives of both terms of work are:

1. To acquire a better understanding of our student body as a whole.
2. To acquire information about what services are available to students and how they may be used.
3. To develop a point of view about our own jobs and about the place of these jobs in the total personnel program.
4. To acquire a knowledge of the skills and techniques which are useable in particular job situations.
5. To gain an understanding of our own limitations as counselors (we all have them).
6. To provide an opportunity for an exchange of ideas in the development of a sound student personnel program on the Los Angeles campus.

For the remainder of this year only one additional step is contemplated—the preparation of an Annual Report which is both descriptive and quantitative and which will be presented to the Academic Senate as a summary of the first year of operation. This, we believe, is an unusual procedure in that such reports ordinarily go to the President of a University but not usually to the Faculty. In this instance it will not only go to the President and the Faculty, but also to the student body

officers on the campus. At least, no one will be able to say that he has not had the opportunity to know what we have done and what we are planning to do.

This paper will not attempt to enumerate all of the committees, administrative and academic, on which personnel staff members have served, but they have made it possible to widen acquaintance in the University, and to give service as participating members of the University Faculty.

All of these steps have been taken in the belief that the first step in securing faculty cooperation is to acquaint them fully with what we are doing in language that is understandable from a lay point of view. Our first concern has been the interchange of information and clearance of plans where functions have belonged to some other department or service. There has been a great deal of discussion on this latter, that is, where certain functions can best be performed and how such service can be conducted. It will continue to be a major topic for a long time to come.

Finally, we believe that mutual trust and understanding are built on acquaintance, friendly relationships and service—we have, therefore, been very busy making ourselves known as persons, as well as trying to make the professional services we offer a part of the thinking of every staff member in the University.

SECURING COOPERATION OF THE FACULTY IN THE PERSONNEL PROGRAM

MAURICE D. WOOLF

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SECURING the cooperation of the Faculty is a complicated process. The starting point of the process may be unrecognizable as such. It *may* begin with a social explosion among the students, such as the declaration of an illegal holiday, a mob invasion of the classroom, barricading the campus entrances, throwing a classmate through a window, or demolishing the furniture in a local tavern.

These are evidences of underlying currents of dissatisfaction and provoke the question, "Is the college satisfying the needs of the students?"

A study in one midwest college revealed that only 37 per cent of the freshmen completed a four-year degree. Twenty-six per cent of all its students were *not* making progress toward a degree. Less than half of this number could blame low ability.

Drop-outs, failures, marginal achievers and social explosions are evidences which help to convince a faculty *that problems exist* and provide them with the necessary motivation to work on a solution by faculty committees. Thus it is possible for faculty members to discover *for themselves* the urgent needs and problems of the school.

At the risk of being obvious, let me point out that the laws of learning operate as well with faculty members as with students. The Dean of one of our scientific-technical schools at Kansas State College decided he would find out for himself whether there was anything to this new testing program. He made a study and announced with pride and some astonishment that *achievement in his school could be predicted* on the basis of the tests. Having discovered this significant fact *for himself*, he *believed* it. He had *learned* it only after personal exploration

and it was as new to him as if he had not heard me say so repeatedly.

Participation by the Faculty in planning a personnel program and in making a decision to establish such a program should be invited.

Suppose the Faculty of *X College* has studied and approved a plan for faculty advisement of freshmen, to be supplemented by clinical testing and counseling by a staff of trained personnel workers.

Assuming that Advisers have been selected by the Deans of the Schools or Colleges, how will the Personnel Director train the Advisers?

Advisers in one college *asked* for training sessions led by members of the clinical staff. Case studies were presented by clinicians and selected advisers who distributed to the audience mimeographed copies of case data to be consulted as the cases were discussed. A handbook for advisers was prepared by members of the personnel staff and used as a basis for discussion.

You skeptics in the audience are saying to yourselves that tired, over-loaded teachers will rebel against these meetings. I recently assisted with a training course for the faculty of a large high school. The final session of two hours closed at six p.m. These *tired, hungry, red-eyed* teachers had wrestled with wriggling adolescents and breathed chalk-dust for five hours before the class convened, and yet they sat in their chairs and asked to continue the discussion.

Newly developed group techniques make these faculty meetings most productive. Following a report on some aspect of the proposed program, the leader divides every other row into groups of six who are asked to turn around and talk to the six people behind them on the subject just introduced. A spokesman is elected for each group to report their conclusions to the general meeting. A short conference in small groups followed by reports gives an opportunity for widespread participation.

In actual practice this device stimulates much thought and expression of opinion. Observers note a quickening of interest and participation, increasingly efficient use of time, and noticeable progress toward goals, each time the system is used.

One of the values of such a meeting is that members of the audience have an opportunity to express *positive* or *negative* feelings toward the proposed program. After *letting off steam*, the obstructionist often discovers *favorable* aspects of the program.

Facts, alone, will not insure the cooperation of the faculty. If the personnel worker takes a realistic view of his task, he knows that the *major* obstacles to the success of a comprehensive program are the emotional problems of *resistance*, *fear*, and *hostility* among the faculty. Educators are subject to all the peculiarities of the human race, and like other human beings, are inclined to resist change and to regard a new system as a *threat to personal and institutional security*. Charles Kettering¹, Director of General Motors Corporation, says whenever he hears a speaker propose a change in the traditional method of handling a situation, he can write the committee's adverse report without hearing the rest of the meeting. People are inclined to be suspicious of change.

Indeed, it sometimes appears that educators are even more conservative than the general population. Nathaniel Cantor,² in his book, *Dynamics of Learning*, says, "Education is the handmaid to reaction." In any case, the personnel worker can expect to hear these statements, *firmly reiterated*, "We have never done this before," or "We have been doing it *this* way for 30 years,"... with a finality of tone which is supposed to close the subject.

The faculty member who is already engaged in some variety of personnel work may be especially skeptical of one whom he regards as an interloper. Others view the whole idea as nonsense and resent the added responsibility. The pioneer personnel worker can expect rebuffs. He may find himself in the shoes of the battered little boy who had been advised to give up roller skating. He replied, "I got these skates to *learn with*, not to give up with."

We have been talking about *resolving resistance* by employing democratic and psychological principles: permitting the faculty a part in evolving and operating a personnel plan, providing

¹ In a speech delivered at Kansas State College, March 25, 1949.

² *Dynamics of Learning*, Buffalo: Foster and Stewart, 1946, pp. 1-12.

for free expression of negative as well as positive attitudes, and applying the laws of learning to the faculty.

Now let us look at administrative controls which help to produce faculty cooperation. Administrative interest in the program is salutary.

I have observed, with respect, the magic effect of a simple statement of support by the administration. I am reminded of an incident which applies to the problem. An unhappy looking wedding guest was asked if he had kissed the bride. He replied reminiscently, "Not recently!" . . . Following an administrative directive you will always observe a certain number of hitherto reluctant followers getting in line to kiss the bride.

Arranging for contacts between students and their advisers is an administrative problem. The administration can make it easy for the faculty to cooperate. Both faculty and students may be inspired with the best of intentions, but if part of the announcements get lost in the college post office, or the adviser's office is in some remote corner of the campus, or if he prepares for a conference and his advisees do not show up, enthusiasm is considerably dampened. Students who find it difficult to think of a faculty member as a friendly, helpful adviser may hesitate to make the contact. I recall a high-school student-president who expressed a characteristic attitude when he began an assembly speech with these words, "Faculty members! *And Friends!*"

Enrollment procedures can help or hinder the program. If the freshman is enrolled by his adviser, the contact is assured; the use of test results and other data in enrollment is made possible; and the accurate placement of students in curricula is facilitated. The enrollment of upperclass students at the close of the previous semester clears the way for the adviser to spend more time with the freshmen.

The practice of issuing grades to the students through their advisers is effective. The student has an opportunity to evaluate his progress with his adviser and to secure his help in making future plans.

A special advising day set aside in the schedule facilitates the advising program. If appointments are left to chance or scheduled for holidays, the number of contacts will be sketchy.

The administrative set-up affects the number of referrals by faculty members to the clinical counselor. Automatic referral of discipline cases and failures will get a large number of problem cases to the clinic. Probably no student should be permitted to appear before the reinstatement committee until he has seen a counselor. In order to keep relations harmonious between counselor and committee, the counselor should send a prompt report on any student referred to him by the committee.

A reduced academic load or additional pay for the adviser are administrative practices sometimes employed. They provide an incentive and give the administration the advantage whenever it is desirable to remove an adviser. A bonus of fifty dollars each semester is given each adviser in a certain small liberal arts college. Unless he does a satisfactory job of advising he knows he will lose his advisees and his bonus.

Because of the demands made on the college President and his staff, he is obliged to depend on the Director of Student Personnel to keep him informed as to the progress and needs of the program. This is a very important function of the head of the personnel program, and the Personnel Director should *take the initiative* in establishing communication with the administration.

The success of the program also depends on the efficiency of the personnel staff. The mechanics of preparing and issuing freshman folders should be carefully worked out for the *convenience of the adviser*. This involves the planning of freshman orientation to permit prompt scoring and recording of test results before the date of registration.

A system of communication between faculty advisers and the personnel staff is absolutely essential. Any adviser who refers a student for clinical counseling should receive a report of the diagnosis of the problem and the results of counseling.

Now let us say that the plan is working. The administrative arrangements are favorable; the freshmen have been tested, advised and enrolled. The advisers have recorded their interviews and returned their folders to the counseling bureau. What next?

The problem of resistance, though modified, is still with us.

The role of the adviser must be built up. The conscientious adviser who has already grasped the purpose of the program should receive recognition. The adviser who has begun to apply his knowledge of test interpretation and interviewing in actual situations should have an opportunity to ask questions and to describe his experiences. The adviser who is disgusted and disillusioned should be given an opportunity to present his point of view and to get rid of his aggressions.

A meeting following the first advising conference is usually very productive. Breaking the audience down into small groups is essential for fullest participation.

This is the point (one of them), where the director of the program will be in despair over the attitudes of some advisers. On the other hand, he will be agreeably surprised at the sensitivity and enthusiasm of many of the untrained faculty members.

Direct contacts between the Personnel Director and the individual adviser are profitable. Members of the personnel staff should assist the director in interviewing individually as many advisers as possible.

An emphasis on gains and successes will produce more learning among the advisers than criticism of their mistakes. A beekeeper replied to a complaining visitor who had been stung, "Just show me the bee and I will have it punished." . . . The productive members of the apiary are easy to identify, and *they* should be recognized. (After all, material rewards will not be abundant.)

The adviser should be consulted whenever any of his advisees are involved with the reinstatement board, discipline committee, etc.

The number of advising contacts and those which are particularly noteworthy should be reported to the deans of the various schools. Check-up studies should be made on whether or not failures, curriculum changes, discipline problems and drop-outs are reduced. Whenever results begin to show up, they should be reported to the adviser and the administration. Seventy per cent of the 1947 freshmen at Kansas State College who had seen their advisers reported they had received help. Eighty per cent reported they felt their advisers wanted to

help them.³ Reports of this nature stimulate interest among the faculty.

Cooperation increases when the adviser observes that the personnel system is doing something for *him*: reducing the number of shifts in curriculum by students, eliminating disinterested students, and routing to him students who are interested in *his own field* of subject matter. When the adviser feels the satisfaction of helping a student through counseling, his interest in his role will grow.

In other words, securing the cooperation of the faculty is a continuing process. The advising program *can break down* in the relationship between the adviser and the head of the program. It is similar to the management-worker relationship . . . and the findings of Roethlisberger and Dickson⁴ apply as well in the advising program as they do in the industrial plant. Their conclusions were that social and emotional satisfactions are at least as important to the worker as pay, hours and working conditions. The *adviser, like* the worker, must know his role and how he fits into the picture. He must feel that he is making a contribution and that it is recognized.

Let us review the steps in securing the cooperation of the faculty:

1. Involve the faculty in a study of student problems and permit them to participate in the development of a personnel plan
2. Choose a personnel staff
3. Recognize the emotional problems of resistance, hostility, and fear among the faculty
4. Set up administrative procedures which will motivate the faculty and permit the system to work
5. Choose the advisers
6. Begin the training program for faculty advisers
7. Evaluate the adviser and define his role
8. Keep him informed
9. Continue the use of personnel methods with faculty advisers

³ Counseling Bureau Study, Kansas State College.

⁴ Roethlisberger, F. J. and Dickson, W. J. *Management and the Worker*. Cambridge: Harvard Univ. Press, 1943.

The basic concepts underlying this approach are:

1. The individual faculty member has a right to help make a decision which affects his work and the welfare of the college.
2. Feelings of resentment, hostility and fear among faculty members are *inevitable* and it is the responsibility of the personnel director to try to resolve them.
3. Widespread participation and ego-involvement will help in securing the acceptance of the program.
4. Motivations within the group can be manipulated to produce faster and more permanent learnings.
5. Personnel procedures *can work with faculty members*.

The skeptics among you will say that these proposals are impractical and idealistic. I must confess that if you were to visit our system, you might find some imperfections. But then it is entirely possible that we learned some things while establishing a program which we can pass on to you.

Possibly it will reassure you to know that these techniques have already been put into practice by some innocent souls who were not aware that they were impossible.

I call your attention to the New York engineers who had decided that a certain hydro-electric dam was impractical. While they were debating, beavers moved in and built a dam, 126 feet wide and six feet high, and flooded fifteen acres. A blissful unawareness of the impossible is all you need.

GROUP TECHNIQUES IN THE GUIDANCE PROGRAM

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THIS paper is an attempt to examine group guidance, on the part of one who is not a specialist in that area, to view group guidance in some perspective, to rationalize our thinking about its techniques, and to assess its contribution to and its place in the total program of guidance services. The extremely diverse and incohesive literature was difficult to assimilate and to synthesize. What follows is therefore definitely one man's attempt to organize a chaotic field; it is sure to prove incomplete and inadequate in many ways.

A Bird's Eye View of Group Techniques

Group guidance methods can be classified under two headings according to their purpose: as *orientation* activities, and as *therapeutic* activities. They can be classified also according to the principal method used: as *activity* methods and as *discussion* methods. The discussion which follows focuses first on the purpose, then on the method.

Orientation.—The purpose of orientation is dual: it may be *factual*, conducted in order to disseminate information presumably needed by the participants, or it may be *attitudinal*, designed to inculcate or develop attitudes which facilitate self-orientation. Or it may, of course, be designed to do both of these things.

Factual orientation, which presumably helps the individual to adjust when there is little likelihood of emotional involvement, should be useful in a guidance program when carried on *before* the information which is to be imparted has acquired appreciable emotional significance. Thus, orientation to unskilled and semi-skilled occupations, which tend to be looked down on after financial and social status values become attached to them in the eyes of children, might best take place in the

elementary school. At that age they would be judged less by monetary and prestige returns, and more by the intrinsic nature of the activity; strength, speed, skill, tools, and the social contribution of the worker would be among the determinants of which the child was aware. At this stage of his development, he would be able to take in facts which would serve as the basis for a more tolerant and accepting attitude toward unskilled and semi-skilled work as he grew older.

This illustration of the importance of timing in factual orientation has implications for the methods to be used in the dissemination of information. As Jager has often pointed out in criticizing the use of the term "group guidance," the dissemination of information, factual orientation, is nothing other than instruction. And if the instruction, to be helpful in promoting adjustment, must come at just the right time in a child's life, then it will be difficult routinely to provide specific group guidance activities of the factual orientation type at just the right time for all pupils. This hypothesis seems to be borne out by the experience of many teachers of orientation and occupations courses in junior high schools, who have found their pupils unready to participate and uninterested in the courses; it suggests that much of the needed factual orientation, much of the instruction in educational and vocational opportunities, should be provided in connection with other aspects of the educational program. The greater flexibility of orientation activities and discussions interwoven with other courses and with extracurricular activities should make these superior to special orientation courses.

Factual orientation or instruction can be carried out both in discussion and in activities. Most instruction has relied on discussion, whether the discussion is dominated by the teacher's presentation of prepared material or by the pupils' reports of their observations and reading. Familiar illustrations of this method of group guidance are the texts by Chapman, by Brewer and Landy, in which the world of work and the principles of occupational choice are surveyed. Parsons used this method with groups of young men back in the early days of vocational guidance; we use it today in most occupations courses and in many career day and assembly programs.

The use of *activities* as a means of disseminating information, whether educational, occupational, or otherwise, seems to me to be more promising than discussion. One of the better illustrations of the use of this technique is the Occupational Laboratory Method developed in the General College of the University of Minnesota, in which students make first-hand studies of occupations selected on the basis of appropriateness to the individual student. But the use of activities for the dissemination of occupational information is not limited to the point at which vocational choices are being made, nor to occupational laboratory courses. School newspapers, aviation clubs, dramatic societies, and numerous other extra-curricular and leisure-time activities lend themselves to the dissemination of occupational information, make the information more functional and easier to assimilate than when it is encountered simply as facts about an occupation which may as yet have little meaning to the person in question.

Attitudinal orientation can be distinguished from factual orientation more readily in theory than in practice, but the distinction should be helpful in understanding more clearly the principles and procedures involved in practical work.

To be able to assimilate facts and to see their personal implications one must be open-minded and free from emotional involvement. The facts must be acceptable to the individual, compatible with his self-concept and with his values. If they are greatly at variance with what he values he will have difficulty reconciling them with what the experience of years has led him to believe. When faced with such a dilemma the newly ascertained facts are at first, of necessity, rejected, for they cannot compete with the emotionally bolstered convictions of the past. For them to become acceptable, either they must acquire positive emotional values of their own, or the antagonistic emotions which they arouse must be worked through in such a way as to weaken the barriers to acceptance, reorganize the beliefs and values of the individual, and make the new facts seem compatible with the revamped personality.

It is when the facts which are to be disseminated are likely to be difficult of acceptance because they run counter to established beliefs and values that *factual* orientation programs are

likely to be inadequate, and that *attitudinal* orientation procedures are needed. If the emotional problem is one which involves primarily social attitudes and values, participation in attitudinal orientation activities or discussion may be sufficient to effect a change of orientation, for then the attitudes and values of the group are made clear and are brought to bear on the individual. But if the values and attitudes are more personal than social in origin and reference, orientation experiences may not suffice. An illustration will be helpful in making clear the differences between factual and attitudinal orientation.

Let us suppose that Johnny, a boy nine or ten years of age, brought up in a typical middle class community, hears a discussion of the value of a college education. The probability is that he will not be much involved personally himself, unless his parents have done an unusual amount of indoctrination. When he learns that one must go to college to be a lawyer or a doctor, but that one can be a big league baseball player or a deep sea diver without such an education, he is most likely to conclude that college is a good thing for some folks, but a waste of time for others. His own college-going aspirations will remain vague. His attitude toward a higher education is left in a malleable state, thanks to his recognition of the fact that college is desirable for some but unimportant for others. He can still assimilate facts about the advantages and disadvantages of a college education, provided, of course, that he is interested enough to attend to the facts.

But now let us assume that this same Johnny is 17 years old, and that his parents have for several years been talking in terms of his going to a highly selective college. In an orientation course he is confronted with the half-suspected but not fully recognized fact that his grades are not up to the standard required by that college, and that his scholastic aptitude test scores are so low as to make it unlikely that he could attain the required academic level. At this stage, and under these circumstances, these facts have emotional significance which make them difficult for him to assimilate, simple and clear though they are. With his and his parents' hearts set on Siwash, and with his best friend already accepted there, not to be able to go to Siwash is an emotionally toned fact which he has diffi-

culty in accepting. But this is a fact which is made acceptable or unacceptable largely by what people think. The relevant values are primarily social in origin and significance: Siwash is tops among colleges, Johnny wants to be thought tops, and so Johnny wants to go to Siwash. The fact that Johnny may not be able to get into Siwash is discussed in the orientation class. As the class is attitude-conscious, and the teacher is aware that he is dealing with facts which may have emotional significance, Johnny's disappointment becomes manifest and the implications of these facts for him are discussed. Several new facts and attitudes emerge: the class thinks that a number of other colleges are really about as good as Siwash, Johnny's record is good enough so that he could probably be admitted to some of these other colleges, and several respected local citizens, all of them considered tops by the class, went to these less selective colleges. Supported by the group's interest in his plans, finding that the group considers other colleges acceptable and status-giving, and made newly aware of the fact that others have achieved status without going to Siwash, Johnny finds it relatively easy to scale down his college ambitions. The group has given a positive emotional tone to facts to which, unwittingly, it had in the past given a negative emotional tone. In this example the attitudinal orientation method used was group *discussion*, discussion not so much of Johnny and of Johnny's problems, but rather of colleges and of people who went to them. The facts dealt with in attitudinal orientation are more social than personal.

Such emotionally toned facts can be dealt with, not only in group discussion, but also in group *activities*. Several experiments have shown that nursery-school children and college students can be changed from shy, self-conscious individuals to self-confident, social persons by giving them a social skill and some success in group activities. Encouraged by their limited success, they move on to more extensive activity and greater socialization; finding that their more social selves are liked and welcomed by others, they extend the social self until it incorporates most of the self. The aphorism that "Nothing succeeds like success" constitutes popular recognition of the effectiveness of successful participation in group activities as

a method of attitudinal orientation. In the fact that the converse should also be true, that "Nothing fails like failure," we have perhaps the explanation of why so many group-work and student-activity programs fail to help some individuals who are directed to them. The insecure and unsocialized person enters the new group awkwardly, without the emotional support which he hoped to find there and which the preoccupied group leader is unable to give him; he thus alienates the other members of the group instead of winning their support. Failing at the start, he soon drops out of the group. If, on the other hand, the person in question is able to establish some sort of relationship with one or more members of the group, he enters into it, engages in its activities, becomes aware of its values, assimilates its attitudes and makes them a part of his own. Successful identification with the group results in the patterning of the self after the group in many important ways.

But there are other ways in which group activities can contribute to the attitudinal orientation of the individual. The person who is already a member of a group, and who with it visits industrial plants, housing projects, slum areas, or art exhibits, carries away with him impressions of group evaluations of things that have been seen and heard, and these group evaluations help to modify his own attitudes and values. The student who helps plan a dance, copes with a problem of ethics in a student government meeting, or works with others in designing the sets of a play, submits to the influence of group experience in which the attitudes and values of his colleagues are forcibly brought to bear on him. Emotional maturation and socialization should be the effect of such experiences on those who are sufficiently self-directing and self-integrating to assimilate them and to use them constructively.

This brings up a point which should be emphasized again in concluding this outline of what I have called orientation techniques, both factual and attitudinal: the use of group orientation techniques involves the assumption that the individual members of the group are sufficiently self-directing and self-integrating to assimilate new facts, even when these are emotionally unacceptable. While attitudinal orientation in group discussion gives the individual some help in this process, by

letting him express his feelings and by bringing to bear on him social evaluations of which he was not fully aware, it is still up to the individual to understand his own feelings and to assess those of the group. It seems logical to expect that, when the attitudes and values surrounding an emotional problem are more personal than social, the individual in question will not be able to solve them with no more help than is given by attitudinal orientation. Group support and shared experiences will not produce the release of tension, self-acceptance, and insights which are needed.

Therapy.—Group therapeutic or counseling procedures have been developed as a means of meeting needs which could not be met by group orientation methods, but their origin was actually not in the school, the college, or the group-work agency, but rather in the mental hygiene clinic and the mental hospital. It was the inability to devote the needed time to therapeutic work with individuals that suggested group therapy, rather than any consciousness of the unmet needs of individuals participating in group orientation programs. Perhaps the failure of group orientation methods to lead to the development of group counseling was due to the fact that those responsible for the former were either teachers or teachers turned counselors, and that group work to them seemed synonymous with instruction, however progressive its methods. To the clinicians, however, group methods did not mean instruction. Instead, they meant the adaptation of the techniques of individual counseling to use with groups. Group therapy was the natural result, first in the form of group discussion, and then in the form of group activity.

Group Discussion has been used to provide group therapy in a number of different forms. A useful classification of these seems to be that of Cathartic-Supportive Group Therapy, Non-directive Group Therapy, Group Development, and Interpretive Group Therapy, arranged in ascending order of directiveness.

Perhaps *Cathartic-Supportive Group Therapy* should be singled out as one group-guidance method which has generally not originated in the clinic or hospital, but rather in the religious revival. It is one of the methods of various cults and groups

which have cultivated catharsis in the public confessional and absolution through confession to the group. Direction is given to the therapy by the cult, which specifies the types of sins which should be confessed, the time, place and method of catharsis, and the means by which the group expresses its emotional support of the penitent, whether in the revivalistic form of "halleluiahs" or the Buchmanite form of invitations to high-class houseparties. But the treatment is largely through permitting the free expression of certain types of anxieties, accepting the individual no matter how reprehensible his problems, and an example of faith and fervor with its accompanying power of suggestion.

One of the newest forms of therapeutic discussion is *Non-directive Group Therapy*, which got off to a rapid start during World War II when a number of Rogers' students were assigned to rehabilitation work with combat fatigue patients in military hospitals, at a time when nondirective counseling theory was just beginning to command widespread attention. As in the counseling of individuals, the nondirective group method consists of acceptance, reflection and clarification of feeling, and reliance upon the integrative forces in the individual to lead him to assume responsibility for working through his problems in the permissive atmosphere of the therapeutic relationship. Apparently almost any group of people of roughly similar age and educational status interested in improving their own adjustment can form a therapeutic group, using almost any emotionally toned topic for discussion. Thus, groups of graduate students have met once a week for therapeutic sessions around the topic of anti-semitism, and found that in the process of exploring their feelings on this issue they laid bare their concepts of themselves and of their role in society, discussed their values and objectives in relation to those of other persons, and worked through their feelings toward a variety of other people.

What is commonly referred to as *Group Development*, including *Group Dynamics*, might more accurately be called Group Interaction Therapy, for the basic principal of this type of group therapy seems, to an outsider who has not had the experience of going to Bethel, to be that understanding one's own behavior in a group results in insight and in the modification

of attitudes. The key technique is the recording of the types and amounts of personal interaction in the group, and the discussion of the nature of the group process as it has unfolded in the group in question. The group first behaves, while discussing some other problem or engaging in some cooperative behavior; while this is going on its behavior is recorded, to show the type and amount of participation of each member; and later a summary of this record is reviewed by the group, so that it may see itself and its components objectively. The effect is apparently rather like that of hearing a recording of one's own voice for the first time, or seeing oneself in a mirror after a long period of illness involving physical changes. The opportunity to discuss these glimpses of oneself as seen through impersonal eyes, with a sympathetic group which is having the same experience, produces new insights into one's behavior and new feelings of solidarity with others, which themselves modify behavior.

Most difficult to describe, because it includes a number of different types of therapy, is *Interpretive Group Therapy*, perhaps the oldest category among the psychiatric and psychological group therapies. The common principle is to help the members of the group to develop new insights into their own behavior through the interpretations of the trained leader and of the group members, supported not only by the acceptance of the leader but also by the feeling of solidarity engendered in some types of troubled persons by being one of a group of persons working toward a common goal. The variations in method consist largely of the type of interpretations offered to patients (depending on the systematic leanings of the leader), and of the freedom with which interpretations are offered (perhaps more a matter of the individual leader than of any school of psychotherapy).

In all four types of group discussion for psychotherapeutic purposes several common elements appear. These are: (1) the opportunity to discuss one's problems freely in a group made sympathetic by an awareness of the fact that they too have comparable problems; (2) the feeling of support from and oneness with others; (3) the clarification of feeling, whether as the result of reflection or of interpretation; (4) the develop-

ment of insight, whether as the result of taking responsibility for working through one's feelings or of interpretation; and, (5) the feeling of ability to face life's problems which comes from having put them into words and achieved an understanding of both one's own feelings toward them and of the attitudes of a number of other persons.

Group Activity for definite therapeutic purposes seems to have been tried largely through the psychodrama and role playing. The basic assumption in the *psychodrama* is that in the make-believe world of the stage the individual can express his needs and his reactions to pressures and that this cathartic release of tension will make possible better insight. There is also the assumption that constructive forces will then come into play, and that letting them direct the individual's action on the stage will provide him with the opportunity to develop and to understand his hitherto submerged but more positive self.

This second principle led to the development of *role playing* as a somewhat distinct activity method of group therapy. The client or patient is assigned a role to play on the stage, instead of being left to devise his own role as the action progresses. This set role may be chosen by the therapist directing the role playing, in an attempt to help crystallize a self-concept which appears to be emerging in the patient; it may be chosen by the counselor and client together, the choosing itself being a part of the therapeutic process; or it may be allocated to the individual by the group, as together they plan the roles to be played by each member of the group. In this last case group discussion merges with group activity as a therapeutic technique, the group playing an active part in developing the role of the member, but the leader also playing a part in order to protect the individual from having a harmful role assigned to him. Once the role has been chosen, by whatever method, it is then up to the individual to develop it in action on the stage. The way in which he does this is usually criticized by the group afterwards, thus giving him an opportunity to see how well he has taken on the characteristics of the role. Practicing the new character is presumed to leave a permanent impression on the personality of the actor. The presumption is made plausible by the postulate that the role enacted is one which gives play to

traits and values which are emerging and becoming dominant in the personality of the client.

As our bird's eye view of group-guidance methods has taken in a variety of techniques, it may be well to enumerate them again at this point. They are as follows:

Orientation

Factual
Discussion
Activities
Attitudinal
Discussion
Activities

Therapy

Discussion
Cathartic-Supportive
Nondirective
Group Development
Interpretive
Activities
Psychodrama
Role Playing

Our next questions are, what are the limitations which seem inherent in these methods, and what is their place in the total program of guidance services?

Limitation of Group Methods

The most important limitation inherent in group orientation procedures stems from the assumption that orientation results in adjustment. That this assumption is not always warranted has been shown for vocational guidance by the studies of the General College at the University of Minnesota, where Stone found that occupations courses did not appreciably improve the educational-vocational adjustment of students unless they were combined with counseling which assisted the student in applying to his own case the facts and attitudes to which he was exposed. It has also been shown in studies such as those of Kefauver and Hand, who reported for example that the percentage of low-ability pupils in junior high school aspiring to go to college was increased, rather than decreased, by exposure to a course in educational and occupational opportunities. From

findings such as these we are probably warranted in concluding that only the better-adjusted, more insightful, and more self-directing individuals are able to profit much from group guidance which consists largely of the dissemination of facts, if these facts are presented to them at a time when they have already had the opportunity to build up emotionalized attitudes concerning the topics in question. Provision of opportunity to discuss the personal implications of newly ascertained facts, and the airing of attitudes by group members, so as to permit individuals to reorganize their attitudes and values in the light and with the support of group thinking, seems likely to be helpful when the attitudes and values in question are more social than personal, but not when they are highly personal and deeply imbedded in the experience of the individual.

In such instances therapeutic rather than orientational methods are called for. But what are the limitations which seem to be inherent in group therapeutic methods? Because of the newness of these techniques, interest in which was limited until the War gave them new importance, relatively little is known on this subject. We are still in the stage of exploring their *possibilities*; awareness of their *limitations* will only come later. But one might hazard a guess as to what they will prove to be. I suspect that group therapy will prove to be effective only when the group is relatively homogeneous in educational attainment and when the individuals constituting the group are persons in whom the homeostatic or integrating force is strong, in whom the need for group support is real, and in whom the more pressing adjustment problems involve *interpersonal* relations rather than *intrapersonal* relations. That is, they will be persons who are best described in the terms of an Adlerian, a Freudian, or a Rankian, rather than of a Jungian, psychology.

The Place of Group Methods in a Guidance Program

Having surveyed the various major types of group guidance and considered their limitations, we should now make an attempt to relate them to each other and to other types of guidance services, in order to see how they fit into a guidance program in an educational institution, a group work agency, or a guidance center. I assume that we are not concerned here

with psychotherapy of the more thorough-going sort, nor with the guidance services of mental institutions.

Orientation programs are primarily a function of schools and colleges. Most *factual* orientation work should be integrated with the curriculum, giving students the facts that they need in order to develop legitimate vocational aspirations and sound social attitudes before vocational and social problems become so acute that information cannot effectively be used. As there will inevitably be times in the educational, vocational, and social development of young people at which choices need to be made, and as facts assume a new significance at those points, there is a place for formal orientation activities in educational institutions and in group-work agencies. There is a place for them also in guidance centers which work with people who have no group affiliations and whose orientation problems are closely related to problems on which they are receiving individual counseling. As the need to make decisions heightens the emotional value of facts, formal orientation activities provided at the choice points of development need to be not only *factual*, but also *attitudinal*. There must be time for members of the group to express their attitudes toward the facts encountered, to work through their related feelings, and to modify their attitudes to make them fit the facts.

Group development and nondirective group therapy seem to me to be techniques which are also appropriate for use with persons who are going through the normal processes of personal development. Late adolescence and early adulthood are periods in which a process of integration is taking place in the individual; it is in these years that he crystallizes, tests out, and revises concepts of himself in relation to other persons, and it is in these years also that internal forces are being organized and synthesized into a more or less integrated personality. The methods of group dynamics appear promising for use with persons who are not completely socialized and who want help in understanding their own roles in relation to other people, so that they may modify their social behavior and be more effective in interpersonal relations. I suspect that we shall find that this approach is most appropriate for persons of post-college age, is useable with many college students, and is definitely less

appropriate at the high-school level, for it must require a substantial degree of maturity and insight to profit from a picture of one's behavior in a group.

Nondirective group therapy, on the other hand, should prove useful with high-school age boys and girls as well as with older persons. The technique has been used in college teaching, and may well be adaptable to courses and activities designed to have character-building values with boys and girls of high-school age. It may prove to be the technique par excellence of Hi-Y discussion groups, Sunday school classes, orientation courses dealing with problems of social behavior, and other groups in which an attempt is being made to help adolescents and young adults to achieve self-integration. By providing a permissive situation in which they can express and work through their feelings on problems of importance, discussion groups using nondirective techniques should be able to reach many people who would never see a personal counselor or who could not be served by one if they did seek him out.

Role playing is another method of group therapy which has shown signs of being useful in educational institutions and in guidance centers. It can be used in helping young people to learn social skills and to acquire confidence in social situations, whether the skill be asking a girl to dance or applying for a job; it can be helpful in coaching group leaders, in inducting salesmen, and in training vocational counselors. Role playing involves trying out skills, exercise in putting an emerging self-concept into practice; it involves converting ideas about one's behavior into concrete, criticizable action. It can be used at almost any age level, and in connection with a great variety of needs and problems.

The psychodrama and interpretive group therapy are, I believe, more likely to remain useful with individuals who are more disturbed, more inhibited, and less socialized than those most of us are likely to spend much time with in schools, colleges, group-work organizations and guidance centers. These are more peculiarly clinical techniques, useful in the clinic and in the hospital.

Before concluding this discussion, a few words should be devoted to the relative emphasis which one might expect to

find placed on group and individual techniques in a guidance program. One might even ask, is it at all likely that group guidance can meet the needs of the great majority of students and adults, leaving individual counseling for special cases only?

I think the answer to this question must be in the negative, for while group methods can do a great deal of preventive work, and can even do a great deal of creative work, I think it will always be true that most people can benefit from opportunities to discuss their attitudes, aspirations, and plans with a sympathetic listener who has special skill in clarifying issues and who has a perspective on problems and opportunities such as come only with professional training and experience. A good program of group-guidance services should forestall the development of some problems, should assist in the growth of better integrated personalities, improve personal, social and occupational orientation, and finally, should render people better able to make effective use of personal and vocational counseling services when and as they are needed.

APPLYING GROUP METHODS IN THE VETERANS ADMINISTRATION ADVISEMENT AND GUIDANCE PROGRAM

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GROUP methods in guidance are used in the Veterans Administration advisement and guidance program as a supplement to individual counseling. In this role, they have four major objectives, as follows:

1. To stimulate veterans to consider their vocational future and to take appropriate action regarding their vocational problems.
2. To broaden veterans' occupational horizons.
3. To impart guidance information about specific occupations.
4. To assist in the veteran's reorientation and readjustment to civil life through the presentation of necessary information and the development of appropriate attitudes.

Included within each of these broad objectives is a number of specific aims, any one of which may serve as the subject of one or more group sessions. The specific aim to be set for a group program is determined, of course, by the needs of the particular group of veterans to be served. Examples of specific aims of group guidance programs for veterans are the following:

1. Providing accurate and complete information regarding veterans' rights and benefits, especially those relating to rehabilitation and education.
2. Promoting understanding of the nature of the benefits to be derived from advisement and guidance services.
3. Presenting overviews of many different kinds of work to acquaint the veteran with the wide range of possibilities open to him.
4. Presenting detailed information—such as the nature of the work, requirements, hours and earnings, etc.—for various specific occupations.

5. Informing veterans concerning job trends and outlook for employment in various occupational fields, including self-employment in small businesses and agriculture.
6. Assisting veterans to view realistically their plans for self-employment by presenting discussions of requirements for success in small businesses and agriculture, etc.
7. Providing current information regarding local training and employment opportunities.
8. Providing needed instruction regarding the writing of adequate letters of application, techniques of applying for employment, etc.

The use of group methods directed toward these and similar aims and, through them, toward achievement of the four general objectives cited has been authorized in all Veterans Administration hospitals and in those Army and Navy Hospitals where the Veterans Administration provides advisement and guidance services to servicemen about to be discharged. Included are general medical and surgical, neuropsychiatric and tuberculosis hospitals. The hospital population of World War II veterans from which group members are assembled includes, of course, both veterans who are eligible for vocational rehabilitation under Public Law 16 and those who are eligible for and request education or training under Public Law 346. Considerations of a professional nature, as well as administrative factors such as the number of personnel available, have made it necessary to limit the use of group methods to hospital advisement. Problems relating to the identification of groups of veterans having common needs from within the community at large, assembling such veterans for more than a single group session, and integrating group methods with individual counseling raised serious questions as to the practicability of applying group methods in the over-all Veterans Administration advisement and guidance program. The hospital, on the other hand, represents a relatively well-controlled situation, with veterans available for participating in group guidance activities over a period of time. Counseling hospitalized veterans takes place in a series of sessions. There are, therefore, opportunities for integrating group meetings with the steps in individual counseling. Thus, sessions designed to advise the veteran concerning

his rights and benefits or to orient him regarding the advisement procedure may precede individual advisement or may, along with programs giving general overviews of broad occupational fields, be used in the early stages of such advisement. Meetings devoted to specific information regarding particular occupations, on the other hand, may more profitably be introduced when selection of the employment objective is being tentatively considered. Even in hospitals, however, as we shall see later, problems attendant on patient turnover and similar factors cause no little difficulty in planning and carrying out a continuing group-methods program.

Responsibility for carrying on Veterans Administration hospital group-guidance activities rests with the same vocational advisers who do individual counseling in the hospitals. These personnel were, for the most part, already on duty when the use of group methods was instituted. Their selection was, therefore, based on their general competence as vocational advisers plus special experience or training in rehabilitation of the seriously disabled or in clinical psychology, without special regard to experience in the use of group methods. As professionally trained counselors, however, they do have one of the basic qualifications for effectively applying group methods in vocational guidance—namely, a sufficient knowledge of the philosophy and techniques of counseling to be aware of the limits within which group methods may validly be used. From this pool of available personnel, those individuals were, insofar as possible, chosen for assignment to the development of hospital group-guidance activities who had had some experience in the use of group methods, either in vocational guidance itself, or in connection with educational or recreational programs, such as club work or adult education projects.

Before proceeding to a description of actual practices and methods, the relationship between group methods and individual counseling in the Veterans Administration program should be clearly indicated. Group methods in guidance are used as a means of making more effective the individual vocational and educational counseling services offered to hospitalized veterans. In no case are they used as an alternative to individual methods. No veteran is expected to make his decision as to

vocational or educational objective as a direct outcome of attendance at group-guidance sessions. For veterans participating in group-guidance activities, just as much as for those who do not, choice of a vocational objective is made on the basis of individual counseling procedures. These include individual interview, application of appropriate psychological tests, and consideration of relevant medical data regarding the veteran, correlated with occupational information concerning the requirements and opportunities of fields of work that analysis indicates to be suitable as tentative objectives. None of the steps in the individual counseling process, as outlined in the Veterans Administration *Manual of Advisement and Guidance*, has been eliminated as the result of applying group methods in guidance. Veterans Administration advisement and guidance policy emphasizes the need to consider each veteran as an individual, to identify the particular pattern of traits and abilities that characterizes him, and to take into account all of the relevant facts in his social, educational and economic history and adjustment. Collecting and interpreting these data for the veteran to use in deciding on his vocational objective and assisting the veteran to formulate plans to meet his goal are regarded as matters for individual counseling.

We have thus far defined fairly precisely what group methods are not expected to accomplish. How, then, are they used and what are their values in our program? First, they are an effective means of stimulating veterans, early in their hospital stay, toward constructive thinking and planning about their vocational problems. In many cases veterans are able to participate in group-guidance sessions before they are medically ready for individual advisement. Such programs, therefore, not only serve the purposes of motivation and vocational orientation, but also are a means of directing the veteran's thinking at an early date toward the time when he will leave the hospital. As such, they have the important therapeutic effects of raising morale and providing an incentive for recovery. Group-guidance sessions have, in many instances, been helpful in integrating physical medicine rehabilitation and vocational rehabilitation services. Through group sessions in which medical rehabilita-

tion personnel participate, veterans are informed of the educational and manual arts therapy activities of the hospital and how they may serve as useful devices for exploring and trying out vocational aptitudes and interests. The realization that selecting an occupation is important and that this process of selection differs from merely drifting into a job is brought home to many veterans for the first time. The need for help in arriving at a vocational decision is stressed and the availability of such help in the form of professional counseling services pointed out. For seriously disabled veterans, in particular, group sessions provide an effective medium for improving attitudes. Acceptance of the limitations imposed by the disability is facilitated by helping such veterans to realize that by concentrating attention upon remaining abilities instead of focusing it upon disabilities, the opportunities for useful work not only are not lost but may actually be extended through proper training. Straightforward presentation of information regarding the occupational abilities in relation to the implications of disability and explanation of the basic facts and logic of selective placement help to overcome feelings of discouragement and resistance to counseling or any form of vocational planning. Veterans benefit by the pooling of experiences and by the interchange of opinions, and are helped, by the knowledge that their problems are not unique, to view such problems objectively.

As a medium for conveying occupational information, group methods make possible broader coverage of occupational fields than time would permit on an individual basis. Such over-all survey type of information regarding numerous fields of work helps to widen group members' vocational outlook and to enlarge the frame of reference in which their occupational choices will finally be made. Detailed information regarding specific occupations in which group members have expressed tentative interest is given in order to help dispel, in advance of the individual counseling situation, unrealistic notions concerning the nature of the work involved, salaries to be expected, etc. The veteran, as the result of attendance at such sessions, comes into the individual counseling interview with a better vocational orientation than might otherwise be the case. The

discussion that is encouraged in group sessions helps to insure understanding of the material presented and is thus preferable to simply putting occupational information publications in the hands of veterans to read.

Through sessions that explain the nature and function of advisement and guidance, group methods further help to prepare the veteran for individual counseling. In such sessions the roles of the veteran and counselor are explained and the fact that the counselee is an active participant in the process is stressed. In preparation for such participation, the veteran is stimulated to self-study and to organize some of the information he will be expected to provide in the counseling interview. At the same time, the need for analysis of his abilities, aptitudes and interests through psychological tests is emphasized. The complexity of the factors entering into good vocational planning and the need for professional assistance in interpreting and weighing these factors are explained.

In connection with the latter, group methods have proved extremely effective. The introduction of the use of group methods in VA hospitals has resulted in a greatly increased demand for individual counseling. In some instances it has even been necessary to curtail temporarily the number of group-guidance programs, lest the resulting demand for individual counseling far exceed the working capacity of the advisement and guidance personnel available. One neuropsychiatric hospital reports that 75 per cent to 85 per cent of the veterans attending programs which explain the nature and values of the services rendered by the vocational adviser and the need for vocational planning subsequently request individual counseling. This active seeking of the services of the vocational adviser on the part of neuropsychiatric patients contributes to the success of the counseling. As stated by the vocational adviser at this hospital, if the veteran will seek counseling he is much more likely to accept counseling.

A description of current practices and methods offers some difficulty, because of the wide variation existing among hospitals. Some hospitals have used group methods much more extensively than others; some employ them to accomplish very limited aims, whereas others have used to the full extent

the authorization contained in the Central Office directive setting forth the objectives of group methods in the VA program. While such variation admittedly has some undesirable features, it is inevitable in a program as far-flung as that of the VA. Applying group methods in a neuropsychiatric hospital, for example, poses problems different from those in a general medical and surgical hospital. Factors such as the size of the individual counseling case load and its relation to the number of vocational advisers available inevitably influence the extent of use of group methods. Central Office has, therefore, undertaken only to lay down the broad outlines of the group methods program, to define its objectives and scope, and to provide some instructional and technical aids regarding methodology and programming. Specific application must, however, be in terms of the local situation, and the major responsibility for developing programs rests with the vocational adviser in the hospital. It is he who has first-hand knowledge of the needs of the veterans whom he sees; he is, therefore, in the best position to plan meaningful programs and to cut and tailor his use of group methods to fit his specific needs. The following account of practices is, therefore, a composite picture of VA group-guidance activities and does not represent the program of any one hospital.

A patient's participation in group-guidance activities, as in any other hospital activity, is contingent on approval by the responsible physician. As soon as possible after medical approval is given, the vocational adviser meets with groups of veterans. These initial sessions are ordinarily concerned with general matters, such as explaining rehabilitation and education and training benefits under Public Laws 16 and 346, defining the purpose of vocational advisement and its relation to other hospital services, or stimulating group members to enroll in occupational and manual arts therapy activities. Often such sessions are held on the wards for veterans who are not yet ambulatory. Sometimes the hospital's public address system is used. Examples of ward programs successfully used in one of our tuberculosis hospitals include the following topics: "Jobs for the Tuberculous," "Guidance and How it Can Help You," "Public Law 16 and How it Operates." Ward programs are

necessarily general in nature, since the group is an unselected one, except as to disability, and likely, therefore, to be heterogeneous in interests and educational level.

Succeeding programs deal with a wide variety of topics. Examples are "Why Vocational Advisement?", "Factors Involved in Vocational Planning," "Getting the Most from Vocational Advisement," "So You Want to Start Your Own Business," "Teaching (or any other specific occupation) as a Career," "How to Apply for a Job."

Programs are varied in nature, depending on the nature of the subject matter and the resources available. Insofar as possible, groups are restricted in size, so as to encourage active participation by all group members. Often there is just informal discussion; sometimes a brief talk by the vocational adviser, followed by a question-and-answer period. Representatives from business, industry and the professions and from other government agencies have cooperated as guest speakers and members of panels.

Motion picture films and other visual aids such as film strips, posters, and charts form an integral part of many VA group-guidance programs. Films on occupations and industrial processes, on rehabilitation and employment of the handicapped, properly supplemented and followed up by other activities have been found useful in stimulating interest, developing desirable attitudes and conveying occupational information. To assist hospital vocational advisers in the effective use of films in guidance, Central Office maintains a review and evaluation procedure for the selection of appropriate films and issues a series of film digests containing descriptive and evaluative information. Only those films approved by Central Office are authorized for group-guidance use. To date, approximately thirty-five film titles have been authorized for hospital use. The VA has purchased a quantity of prints of about half of these films and the remainder are procured on a loan or rental basis. The number of approved films is expected to be raised to approximately fifty within the near future.

Another technique that is utilized is the occupational field trip. Small groups of veterans who have indicated interest in particular occupational fields are taken on visits to industrial

plants and commercial concerns to see employees at work in these occupations and to learn, first-hand, the environmental conditions of such employment. Such trips are followed up by discussion and reference to pertinent occupational literature.

The difficulties encountered in our use of group methods may be of interest. Personnel stringencies are, of course, of paramount importance and have grown more and more acute. With sizable case loads awaiting advisement, vocational advisers have had to give priority to individual counseling. As procedures which supplement and enrich such counseling, but are not an intrinsic part of it, group methods in guidance have been employed on an "as possible" basis. Secondly, continuity of program has been difficult to maintain. The period of hospitalization of group members has varied, making it difficult to assemble the same groups repeatedly. In general, and in medical and surgical hospitals particularly, the average period of hospitalization is brief, making the planning of anything beyond general orientation sessions difficult. In addition, there are many competing demands for the time of the hospitalized veteran. Medical treatment necessarily has first call; scheduling group sessions that will not conflict with the hospital regimen has, therefore, presented some problems. The chief difficulty, however, lies in assembling veterans into homogeneous groups. The use of pre-existing groups, such as groups of patients assigned to the farm detail, the woodshop or other activities, patients in the same ward, etc., is not satisfactory, since such assignments are made for a variety of therapeutic reasons and do not imply homogeneity in the respects that are important for group-guidance purposes. Information from records and from hospital personnel who know the patients and data from the individual counseling records in the cases of those veterans who have begun their counseling, assist the vocational adviser in selecting group members and in planning appropriate programs. The veteran's expressed interests are often the selective factor.

A few statistics may be in order at this point to indicate the extent to which group methods are being used in our program. The most recent data that we have covering all hospitals are for September, 1948. During that month, of 140 hospitals

reporting, 92 or approximately two-thirds had some group-guidance activities. Seventy-eight of these were VA hospitals, 5 were Army and 9 were Navy. General medical and surgical hospitals accounted for 48 of the total, tuberculosis hospitals 21, and neuropsychiatric 16. A total of 427 group sessions was held during the month with 4,558 veterans and servicemen in attendance. The average attendance per session was 10.7. Partial data available for January, 1949, for VA hospitals only indicate that in these hospitals group-guidance activities are continuing at approximately the same level as in September, 1948.

Finally, I should like to admit that we are aware that in some instances vocational advisers have strayed far from Central Office policy and have used group methods for purposes of questionable validity. It is the function of supervision to correct such deviations, and we intend to correct them as promptly as possible.

GROUP DISCUSSION IN AN ADULT COUNSELING PROGRAM

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COUNSELING experience with the so-called "normal" adult population has resulted in the observation by practically all counselors that to occasionally have a problem to which there is no immediate solution is the rule rather than the exception. Likewise, effective solutions to frustrating situations seem to come by way of either changes in what the individual wants, the opportunities available to him, or by improvement in the methods he uses in going about obtaining what he wants. At any rate, the process of working out solutions to problem situations seems to require some perceptual reorganization of the individual, wherein he gains a better understanding of his behavior, what he wants, the consequences of getting it, and the relative merits of using one or another method in getting satisfaction. To facilitate this understanding and to encourage the individual's more effective adjustment is the objective of most counseling programs.

The adult counseling program which I would like to describe briefly to you uses certain group procedures in an effort to better and more quickly realize these objectives. The counseling program is in the evening division of Northwestern University. Adult students who are seeking help register for it as they would for a regular academic course. It is scheduled for a one-hour and forty-minute meeting weekly. It carries no credit, and no grades are assigned. The enrollment is limited to about fifty students each semester. This arrangement permits as many as sixteen weeks to work through the problems which are brought to the counseling program, which is listed in the Bulletin of Courses as "Vocational Counseling."

The Counselors who serve these adult students are graduate students in Psychology, Educational Guidance, and students

in a division of the Graduate School designed primarily for professional training in guidance and personnel work. At the present time, there are thirteen such Counselors, each serving four or five clients.

The staff who supervise the program and the practicum training of these graduate-student Counselors are three experimentally biased psychologists. They have each held responsible counseling positions in a variety of clinical, academic, and industrial situations.

The program itself is based upon the realization that most people do not get into quandaries "over-night" and that it is unrealistic to expect them to work out effective solutions immediately. Rather, it is assumed that the counseling experience should be an opportunity for each client to experience a process of re-education which would include not only establishing at least a tentative solution to his immediate problem, but which would result in his developing problem-solving principles which would serve him in future conflict situations. Operationally, the program uses many techniques. Chief among them are group and individual testing, personal interviews with the Counselors, and a variety of group procedures.

Our purpose here is to describe especially the group procedures which are articulated with the other aspects of the service program. We want to describe these procedures and show how they are used to facilitate the counseling process. Many aspects of the counseling process which have been traditionally reserved for the private interview are now being explored in the group setting. We believe that these efforts not only significantly aid the individual to better understand himself and to work out solutions to his difficulties because of the group atmosphere, but that the group procedures are often economical in saving much of the interview time, formerly used in exploring issues which now seem to be even better accomplished in the group setting.

Since the beginning of the program three years ago a number of different ways of integrating the group procedures with the private individual interviews have been tried. We consider our program an experimental one and, therefore, we will probably continue to try many more ways before we are satisfied. The

latest arrangement which has emerged from our trial-and-error process is the one we want to present here.

We start right off with a group session concerned with the matter of orientation of the clients to the program, and, as a matter of fact, an orientation of the Staff and Counselors to them. Here we try to define the role of the student who is seeking help, the role of the Counselor in his contacts with the student, the role of the discussion leaders in the group sessions, and finally we try to discover from the group what they expect to get from the program. For them to create what we hope is a realistic frame of reference in defining how a counseling program can be of maximum value to them, we have made use of the "buzz session" technique. The group leader simply breaks the group of fifty down into informal small groups of five or six students each, who are sitting close to one another. He asks them to discuss among themselves for 3 to 5 minutes the kind of help the staff can be to them and what they had hoped the program could do for them. Then a spokesman from each sub-group reports the consensus expressed by his associates. The group leader interprets until there seems to be a fairly uniform understanding of the intent of the spokesman and he then lists the key comments on the blackboard. This is done for each small sub-group.

This method helps, from the beginning, to show the clients that they may expect to shoulder considerable responsibility during their experience with us. Sure, even before they are given an issue to "buzz" about, they are given a chance to get acquainted. We have been amazed at how well, in general, the objectives of counseling which evolve from their discussion seem to agree with the objectives we believe pertinent to such a program. We feel that the technique accomplishes two things immediately. One, the "buzzing" in the small sub-groups seems to guarantee nearly 100 per cent participation in the relatively large total group where such a percentage is seldom obtained by more conventional methods. Secondly, we believe that it creates a "we-ness" type of atmosphere which facilitates future interpersonal communication later in the group meetings and in the interviews which follow.

When all the comments are out, the floor is opened for con-

sideration of the objectives expected of the course by the entire group. Here, any reasonable idea of what such a program might accomplish is usually spotted by some group member and then, by working through this student's observation, the group leader can get the originators to reconsider their suggestion in the light of additional considerations made by the group. The group leader then explains in what way our program will try to accomplish the objectives they have agreed are worthwhile.

Where suggestions seem to indicate words of caution, the discussion leader gives them when these suggestions come up. For instance, recently a typical "buzz" session comment, in discussing what the program objectives should be, included, "We think we should make use of psychological tests to show our strengths and weaknesses." In review, the staff member pointed out that we would use tests, but warned that tests are instruments with definite limitations. He pointed out by analogy that like a thermometer, which shows whether the individual has a fever but tells nothing as to the cause or the cure, tests must be considered as instruments to be used in connection with other aspects of the program. The leader uses the group setting to encourage each one to prepare to use the personal interviews to maximum advantage. Through a little discussion of the purpose of the interview, a part of the rapport process is started even before the first interview appointment is made.

The following week another group session is spent in administering the verbal part of a core battery of tests. The battery includes two intelligence tests, two interest inventories, and two personality inventories. We have found the information from this battery is helpful to most of our clients. It is needless to point out that by group administration we effect a considerable economy in testing time which can be used by the staff in ways we believe more profitable to the client. After the group finishes each test they again "buzz" in the smaller groups on the issue of what kinds of questions, pertinent to the counseling situation, the test they have just completed could possibly answer. At this point we have felt that a good many of the prevalent false impressions and false hopes held in tests are corrected. And we feel that having the clients explore, with each other in their small sub-groups and then with the discussion leader, the limitations of test scores, erroneous ideas

concerning the usefulness of tests more quickly dissipate than is ordinarily accomplished through the counseling interview alone. At least it seems that in most instances, the client has a large head-start on understanding the tests when such issues arise in the interview.

After this second group session personal interviews are scheduled for times other than the regular class period. Once the Counselor has established contact with a client, scheduling of successive interviews is left up to the mutual agreement between client and Counselor. By the time the first interview contact is made, the client has experienced two group discussion sessions, knows a few of the other clients, has helped define what he should gain from the counseling program, and although they have not been scored, he has discussed and taken several tests and has thought about what purpose the interview is to serve.

During the third week a third group meeting is held. This time our objective is to get across the significance of successful interpersonal relationships in everyday living. Often our adult clients, in exploring the reason for their discontent with their current jobs, have found that interpersonal conflicts either on or off the job have been more influential in determining their viewpoints than any lack of aptitude or skills. We decided, therefore, that a group session on the "causes of human behavior" might contribute to the more adequate identification by each client of the particular source of his concern. Our method here has been to again warm the group up with a "buzz session" to set the stage for a discussion of some of the basic aspects of human motivation. The sub-groups are asked to buzz on, "What kind of information is needed for more effective understanding of one another?" Armed with some knowledge of the group's perceptual orientation in this realm, the discussion leader with the aid of another group technique, colored cartoons, explores with them the importance of human needs and how their satisfaction depends so directly upon successful interpersonal relationships. Emphasis is placed here upon the reasonableness of seeking causes for our own and the other fellow's behavior.¹ Even when the specific causes are unidentified, an awareness that behavior gets that way through a legitimate process for each individual minimizes our inadequate social responses.

¹ Cartoon on "Behavior is Caused" shown.

The cartoons help to get over the idea that we all have many of the same kinds of needs,² but the ways we have learned to satisfy them makes for considerable individual differences. Through this visual device used in the group we feel that explorations of feelings of insecurity and feelings of inadequacy come out more readily in the personal interviews, and that consideration of the variety of factors that are operative in a given problem situation are more easily sought out, accepted, and understood by the client in his efforts to work out his difficulties. This technique also seems to aid the individual in understanding that we all live many different roles with the degree of need-satisfaction playing an important part in how we feel in each one. He also frequently gains insight here in how he may or may not be contributing through his own behavior to the need-satisfactions of his associates on the job, at home, or other social situations important to him.³ We feel that this is a legitimate area for all clients to explore, not only for help in considering any current problems, but for positive mental hygiene in their future everyday living.

Another group session is equally concerned with both the immediate and long-term view. In the last group session mentioned, we were concerned with the individual's considering his and the other fellow's present needs and being sensitive to their influence on behavior in the future.⁴ The next group session is devoted to providing information to both assist in resolving the current problem situation and also to provide a viewpoint for meeting future problems. It is demonstrated that a problem exists whenever the satisfaction of a strong need is blocked.⁵ At this point the variety of methods which may be used in working out problem situations are reviewed. Some problem situation probably got our clients interested in our counseling program. How have they been going about trying to resolve the tensions precipitated by this problem situation?⁶ Are there a variety of methods generally used by people, which at best lead to only partial solutions and consequently partial

² Cartoon on need for "Attention" shown.

³ Cartoon on need to "belong" shown.

⁴ Cartoon on "Goal directed behavior" shown.

⁵ Cartoon on "Goal pathway blocked" shown.

⁶ Cartoon on "non-adaptive means of overcoming barrier" shown.

reduction in tension, and how might more effective problem-solving procedures be adopted? To get at problem-solving methods, several approaches are made. The first group technique is through the use of these and many other cartoons again. Using them, the discussion leader demonstrates the common elements of problem situations and some of the common methods used in resolving them.⁷ This is done so as to relate what has already been said about the causes of behavior to the causes of conflict situations. It is pointed out that although some methods used in problem situations are ineffective, they have developed like any other habit and better methods can not be expected without additional information. Then the advantage of using a direct analytical approach⁸ to a situation which constitutes a major difficulty is stressed.

At this point a second technique is used. A printed form is distributed to the group and it is supplemented with "chalk-talk" by the group leader. The form is designed to help them understand what the analytical approach to problem solution amounts to. Through its use the individual may bring to bear his resources directly upon the problem. We believe it takes advantage of the usual thought processes which frequently are not too systematic and provides at the same time a means for the client to develop a realistic solution to his problem situation. The prototype of the procedure came from R. H. Seashore's experimental methods. We have adapted the procedure for use with personal problems and refer to it as the "four-column analysis."⁹ The latest revision simply asks the client to consider himself and his present situation and to jot down in the appropriate columns the answers to these questions: (1) What do I want to know or do? (2) What difficulties stand in my way and what advantages do I now have? (3) What can I do to get what I want? and (4) If I do, what may be the results? The discussion leader describes the device, how columns do not have to be filled in, in sequence, and how one should jot down things as they come to mind, refining only in a later stage. Then to facilitate gaining skill in using the device the leader

⁷ Another cartoon illustrating maladaptive behavior.

⁸ Cartoon illustrating removal of barrier shown.

⁹ Enlarged 4-column Analysis shown.

asks the group to think of some situation which might be a problem for many of them. A class member volunteers a hypothetical example. Then the class members begin to make suggestions of possible entries into the four columns, as the leader jots them on the blackboard. Finally, the client group is asked to fill in the sheet (several, if needed) before the next week's session and prior to their next interview as an exercise on their own problem.

This technique seems to have the advantage of breaking down the worry cycle. The individual jots down on paper many of the general and vague concerns and his statements become more specific as he makes progress in the group discussions and in his sessions with his counselor. It gives him a way of organizing his thoughts and of seeing how his feelings are involved in the interrelationships between factors which, without some systematic orientation, he finds it difficult to recognize. Alternative possible solutions can be seen in the light of probable results and consequences before actual tryout. It serves as a device to work out a specific plan of action on the current problem and it is hoped that its general application through this experience may be seen for future problems. And, last but not least, it facilitates the problem-solving experience without shifting the burden from the client to the counselor, a point which seems to get increased emphasis in recent professional papers. Here we hope we are creating a problem-solving attitude to personal problems and to reinforce it through actually going through the process.

The next group session provides an opportunity for the group to discuss any difficulties they found in using the four-column analysis while on their own. Then another exercise is done in the class-meeting through the "buzz session" technique filling in the various columns on the general issue of "how to get along better with our associates on the job, at home, or in social situations." The importance of understanding how our attitudes are developed and the necessity of understanding the other fellow is emphasized through the use of more cartoons.

Through the group procedures outlined above we have tried to provide an atmosphere which will facilitate the clients' working out their immediate problems. We believe that the attitudes formed from the total counseling experience may provide a

helpful frame of reference for meeting future problem-situations. In addition to the sessions we have described that have become somewhat standard procedure for the program, we try always to maintain a degree of flexibility in scheduling group meetings which may be profitable in handling the clients' needs. These needs may be expressed either through the clients in their group discussions or in the interviews with their counselors.

For example, one group meeting precipitated a discussion of the superior and subordinate relationships on the job. They decided to have a special session to discuss nothing else. Six members of the client group were drawn from a number of volunteers to form a panel to lead the discussion with a staff member as the moderator. Participation under the direction of members of their own group was unusually high. The experience proved particularly popular with the clients as reflected in many of their comments to their counselors.

When the Counselors, through regular staff meetings, indicate that a sizable portion of the client group are expressing the same kinds of needs and it is felt that a group meeting might help them all, we simply schedule a meeting and ask them to attend. Sometimes it is for pure information-giving, such as library and other sources of information. Other times they may meet for further exploration of factors important to personal, social or vocational adjustment.

Summary

The group procedures which have been described are integrated with personal interviews and the use of several semi-structured questionnaires. The total process is designed to facilitate the client's appreciation of himself, the specific nature of his concern, and the difficulties which he has to overcome. Furthermore, the analytical approach to problem solutions is encouraged. Through its use, together with the variety of experiences with the counseling program, the client seeks a suitable plan of action.

The program is not a "quickie" type service. With the opportunity of having sixteen weeks for counseling, many things can be explored in both interview and group meetings that time limitations alone in shorter programs would prohibit. We be-

lieve, however, that the group procedures we have used would prove profitable to almost any counseling program, at least for the average individual with a problem.

The early definition of the roles of client, Counselor, and group leaders facilitates the client's willingness to assume the major responsibility for the solution to his problem. By virtue of assuming this responsibility, he more readily accepts as a plan for action the solution to his problem which he evolves during the counseling process. The warm, friendly, "we-ness" feeling developed through the total group participation particularly augmented through the "buzz sessions" not only makes for better understanding of reactions of group members, but provides an easy entree to the individual interview with a counselor.

Since the Counselors are present in group meetings, their understanding of their clients is facilitated by their observations of each of their client's behavior as he relates to the members of his small "buzz session," the members of the total group, and to the discussion leader.

It is a commonplace that people more readily accept and have faith in those things which they have personally had a part in developing. This certainly is the case in securing a realization of what to expect from a counseling program, the value and limitations of psychological tests used, and the analytical method of problem-solving.

The use of the visual cartoons seems to make it easier for the client to consider the many factors whose subtle influences are frequently disregarded. They are sufficiently different that memory of the sketch often serves as a reinforcement value.

The four-column analysis procedure, with the chalk-talks and "buzz sessions" for clarification, serves the client as a method for developing on his own, alternate solutions which take into account most of the factors pertinent to effective adjustment. Through the use of this technique in his counseling experience, its application to future problem-situations becomes apparent. We feel that useful habit patterns may evolve which provide the key to unraveling many ordinary problem situations and at the same time build for the future a feeling of confidence and independence.

LEADER FLEXIBILITY IN GROUP GUIDANCE SITUATIONS

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FLEXIBILITY is a philosophical construct employed in this paper to describe leader behavior that is appropriate to the demands of the culture, the institution, and the present needs of the group being led. This conference is interested in guidance—or how to make group experiences personally relevant to individuals. The thesis of this presentation will be that there is no single leader methodology, role, or attitude which results in meaningful group experience. Variability, adaptability or flexibility of the leader's behavior is essential to insure efficacy from group to group and for each individual within a given group.¹

Throughout this paper the classroom teacher's role as group leader and guidance implementer will be studied for purposes of illustration. Before any evaluation of good or bad, flexible or rigid, appropriate or inappropriate leadership methods can occur, the criteria for group productivity must be established. When is a classroom a group? What conditions should exist in an American college class group that are conducive to learning?

From research and informal experience in evaluating classroom outcomes, the following criteria are assumed to be descriptive of good learning environment:

1. There is ego involvement of teacher and students in meaningful goals and tasks. Equality of opportunity for participation and the desire to utilize individual contributions characterize the psychological atmosphere of the class that becomes a group.

¹ To illustrate the flexibility principle, a demonstration was presented in which the opening session of a graduate class in Industrial Psychology was led by Mr. Arthur Shedlin, Dean of Students, University of Chicago Downtown College. This type of group was employed for demonstration, because much of the guidance in American education is, or could be, accomplished in the primary mode of grouping—the classroom.

Dr. Herbert Thelen of the University of Chicago trained the writer in group aspects of instruction.

2. Material conditions of time and space are such as to allow communication of the total class group and of smaller sections of the class.

3. Social conditions between leader and students, and among students, are such that through acquaintance and effort common purposes evolve; individual learning goals are clarified, established and executed.

4. There is opportunity for distributed leadership. There is shared responsibility for planning, working out, and evaluating individual and group productivity.

5. A balance between identification with the group and autonomy within the group evolves so that each individual feels that he is achieving his academic goals and at the same time is learning significant lessons about cooperative methods and about himself. These latter learnings about self and others can be achieved in the ordinary classroom if the teacher has the knowledge and skills to deal appropriately with the people as he deals with the subject matter.

What does a teacher do to achieve social and personal gains for his students while they are working and learning about a particular subject matter? How does he implement the criteria for groupness and at the same time carry out institutional, departmental and course objectives?

The teacher should have certain *knowledge*. He should know his subject matter and know multiform methods of teaching his courses so as to be able to adapt to changing group capacities for learning. A teacher is often limited in his communication of vast stores of knowledge by a limited knowledge of methods of communication. He cannot develop sensible content objectives in guiding the group if he does not know his subject field authoritatively.

The teacher is *methodologist* as well as scientist in his field. The timing of the presentation of learning activities is dependent on his skill in continuously diagnosing groupness and readiness for action. Preparation of the group for responsible planning, action and evaluation demands skills in:

(1) Assessing student expectations regarding the course at regular intervals.

(2) Giving opportunity for acquaintance and participation in work groups small enough to do the work but large enough to insure socialization. Peer group management is one skill useful to the teacher to insure that the isolate learns too.

(3) Teaching students how to work together through rôle

playing, experiments, demonstration, practicing various leadership rôles, feedback of course content to the group, and through rearrangement of cliques.

(4) Timing the reflecting of the projection of individual attitudes in group situations. The leader who responds only to individuals in a discussion-structured class invites coaction rather than interaction. Coaction often characterizes the non-directively led group. In advanced stages of acquaintance, attitude reflection and interpretation is a powerful skill in implementing self understanding in the classroom interaction. Reflecting individual attitudes early in a course before the group atmosphere is secure is often devastating not only to the individual who has let his attitudes show but to the security of the class in relation to the teacher. Skill in identifying emotional reactions can be useful educationally if it is handled properly by the teacher.

(5) Counseling with students who ask for it or who obviously need personal reorientation. Teachers who make work projects meaningful social experiences find that students migrate towards them to relate significant personal reactions, problems, decisions and goals. Usually teachers earn this function through the combined processes of acquaintance and effort as discussed above, and as a result of the attitudes to be discussed below. In later stages, teacher initiated counseling contacts are often appropriate.

Basic to knowledge of subject matter and skills in developing groupness are certain *attitudes* which help to implement group productivity. The egotistical teacher, for example, cannot willingly distribute leadership; and even if he does, the class usually reacts to his attitude by using the freedom to scapegoat him, to rebel, or to be absent. The methods described earlier demand a preoccupation with the group's interests rather than with self. The flexible teacher's attitude is one of respect for the capacity of the group to plan for, activate and evaluate its own efforts once the leader has implemented initial problem awareness, acquaintance, and practice in working together. The maturity of the teacher demands that he limit the class when it violates institutional and departmental rules. He is the realist, the activator, the support, the servant. His role varies with the nature of the group and its capacity to assume leadership roles traditionally vested only in the teacher.

Underlying the teacher's methods are the learned feelings that he has towards himself and others. He uses the class to project these attitudes—just as the class is projecting on him

and the situation. Students can feel secure in personalizing reactions to course experiences and to one another to the degree that the teacher is secure and to the extent that he provides the subject matter, knowledge, teaching skills and attitude-awareness to make the total learning experience social and useful. To the extent that he can sincerely and accurately verbalize self-relevant remarks of students in a secure, social-emotional setting of the work-oriented classroom, the teacher will be making his instruction guidance.

In the half hour demonstration of the opening session of a class in Industrial Personnel Psychology at the conference, the flexibility principle was illustrated.

The leader was an experienced industrial psychologist with twelve years of private industrial consulting work as a background of knowledge. He was an expert in nondirective group leadership. His attitudes are perceived by most people as kindly, interested, friendly. In terms of knowledge and attitude he was satisfying to the class of six graduate students.

However, the class and the audience criticized the leader for his singularity of teaching method—even though he did vary the traditional reflecting method by (i) introducing the class to one another at the outset, and (ii) directly searching for common purposes within the group.

The nondirective leader failed to utilize various procedures that might have promoted learning:

(1) He did not write group purposes on the board as they were established through discussion. Knowledge of progress was slowed. The leader kept his own notes on group purposes, however.

(2) He could have begun to distribute leadership by having a member of the class record group progress on the board and perhaps be responsible for reporting group thinking to the class when needed.

(3) The class arrived quickly at objectives and seemed ready for implementation of goals. The leader allowed pauses to occur, only reflected expressed statements, and did not clearly perceive this stage of group action. His reasoning on this point was that he is more interested in getting the group acquainted and feeling comfortable than he is in "getting somewhere" in the first class sessions. The debatable point is whether, in a work-oriented classroom, personal attitudes do not come to be expressed as deeply as in an attitude-oriented classroom.

(4) One member of the class obviously was playing the critic rôle and could have been called on by the teacher to evaluate "how we are working together" at the times that the group bogged down.

(5) Another class member stood out as a down-to-earth, practical person who wanted to prod the group to action. At the one time that the group was ready to act, the teacher could have utilized him to lead the group at this point. Resistance of the leader in adapting his rôle to group needs seemed to hold up the class. Reflected feelings at this point did not satisfy the class.

(6) The nondirective method of reacting to individual attitudes resulted in coaction of member with leader. The leader could have distributed leadership and insured interaction by having members practice verbalizing expressed viewpoints of other members.

The above behavioral descriptions are but a few examples of the need for flexibility that appeared in thirty minutes of a simulated class which was led by a person who was supposed to be singular in his approach to group learning.

Probably every class differs in the timing of acquaintance, in arriving at common purposes, in its expectancies regarding the work of the course, in its perceptions of the teacher, and in its capacity to learn to assume distributed leadership. There is no set pattern or sequence of procedures that will prove to be applicable to all class groups. In achieving the criteria of group productivity set forth in this paper, flexibility of knowledge, methods and attitudes seems to be a necessary assumption.

Summary

Flexibility is not a prescriptive or even a very helpful concept. Research on group process has not taught conclusively what is the best practice. In the writer's opinion the certain points are (a) any singular method, e.g., lecturing, reciting, attitude reflecting, or reading is not effective by itself; (b) the teacher's knowledge of subject matter alone is insufficient; (c) singular attitudes, e.g., acceptance, do not alone describe the complex variables comprising the teacher's roles and task; (d) classes demand flexible alteration of the teacher's behavior if the locus of responsibility for action is gradually placed within the group itself.

DIAGNOSTIC AND REMEDIAL MEASURES IN STUDY SKILLS

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MOST of the traditional attacks on problems of so-called poor reading and study skills place extreme emphasis upon differences of efficiency and effectiveness of the mechanical factors influencing learning.

I should like to propose a hypothesis which seems to be borne out by general clinical experience that even in fields of reading skills and study skills, factors of motivation and personality structure are on the whole considerably more significant than the difficulties in mechanical procedures.

This paper is devoted primarily to the philosophies and organization of a program of diagnostic and remedial measures in study skills now in operation at the Student Counseling Bureau at the University of Illinois. Although the program is still in the experimental stage, many encouraging trends are developing. Its methods are unique. Its objectives are neither traditional nor radical.

A previously established study-skills program at the Student Counseling Bureau seemed to be providing many students with adequate study help. Traditional methods such as diagnostic tests, lectures, informative reading and supervised practice frequently boosted achievement to a higher level for that semester. However, some students returned the next semester, again seeking help. After a short attempt to put the recommended methods to practice they had given up in a more or less neurotic fashion and returned to the original methods. They then reported, "I know why I failed; I didn't know how to study." This too-ready explanation suggested that failure provided a satisfaction of an unusual but real nature.

Those who work with diagnostic and remedial measures in study skills with a clinical view will certainly recognize such reaction as not being entirely on an intellectual level.

It follows that college students who complain of study difficulties may have causes for those difficulties much more deeply rooted than the individually claimed symptoms—causes that cannot be adequately diagnosed by the achievement tests commonly used today. Despite the contention of one study-skills authority that “much of the difficulty at the higher levels results from improper learning or failure to learn earlier fundamental processes,” he continues, saying that in corrective training “the effect of unfortunate emotional conditioning persists for years and constitutes one of the major problems in remedial work at all levels.”¹ Mere lack of information of study methods is only infrequently a disabling factor. Actually, at the college level, it can seldom be considered the single causative factor for unsatisfactory achievement.

College students have been exposed to the fundamental skills and knowledge of the primary and secondary schools. The effect of exposure to fundamentals in that formative period may later produce either satisfactory or unsatisfactory achievement, depending upon the dynamics of the motivations involved. Unfortunately, little or no attention is given to the motivational factor at this level, as is evidenced by the simple directed recitation-learning used in high school and mentioned by so many university students seeking study help. Most deans or counselors have frequently heard the tearful wail, “. . . but the instructor didn’t say that was important, so I missed those questions on my final,” or “I just don’t know how to study for that course. The teacher lectures about something that isn’t even in the textbook—how am I to know what is important?”

When we teach a person study skills at the college level we are teaching that person to work independently at maximum efficiency. This unusual definition of study skills implies purposeful motivation as a requisite to achievement by way of skills. Almost every study manual has a short section devoted to motivation or emotional adjustment and they are frequently mentioned within the context of the remaining sections, but there are few if any provisions made for the possible correction of poor motivations or unfortunate emotional conditioning within study-skills programs.

¹ Pennington and Berg, *An Introduction to Clinical Psychology*. New York: Ronald Press Company, 1948, p. 154 (Robert M. Bear).

Motivation, or emotional conditioning, is not necessarily aroused by diagnosing a student's short-comings and providing exercises or informative lectures to remedy his weaknesses. You are frequently aware of inefficiencies in your own methods but you do not change those methods just because someone suggests supposedly better methods. For this reason, undifferentiated wholesale instruction in study skills—a panacea kind of teaching—can hardly be effective. Such methods are statically helpful in that a pupil remains in the role of a pupil, perhaps even a somewhat more efficient pupil. However, one aim of the college study-skills program is to help promote the individual's growth from the pupil-to-student stage in educational development, i.e., from a dependent passive recipient of information to an independent motivated user of that information. The mere acquisition of skills does not satisfy this function. The student needs to understand his own motivations for desiring this change before the change becomes, in effect, his.

Such an orientation to study skills does not allow for an exaggerated emphasis upon one study skill and its correction, nor can such an orientation justify a hasty disregard for the student's present educational and emotional needs. Hence, a decision was made to try to work with these students in groups on a more basic level, involving basic motivations, using study skills as the locus around which the more fundamental problems might take shape.

A permissive discussion group, without the distraction of classroom competition, seemed to offer the student an opportunity to integrate the emotional and intellectual elements of learning. More specifically, the student was provided first, an opportunity to strengthen his present knowledge of study skills; second, an opportunity for emotional catharsis and integration through exploring and talking out his own personal and educational problems; and third, an opportunity to narrow or widen his vocational and educational objectives by means of pertinent information from those areas.

To derive the greatest value from the group for the individual, the program was organized around the self-expressed needs of the students. These needs were first expressed during the initial interview and frequently restated or altered during the develop-

ing discussions within the group situation. Obviously, it was necessary to select a starting point from among the varied problems and expressed needs of the individuals. The leader took the responsibility for selecting the discussion question, but left it in the language of the student to permit as much individual recognition and identification with the problem, as possible. The problem, of course, had to be related in some manner to study skills to be pertinent to the situation. This limitation would, on the surface, seem to be contrary to the original thesis of a permissive situation. However, such limitations do provide flexibility within wide limits and the opportunity for additional individual counseling outside those limits. Individual counseling was stressed frequently as a necessary adjunct of group work as it offered the individual an opportunity for acquiring new attitudes and motivations that he could put to practice with greater chances of success within the selected group.

There were few precedents to follow in setting up such an extensive program. Consideration had to be given to the always present criticism of group work—that it does not provide for individual differences. This was partially provided for in several ways. First, the groups were kept small enough to allow flexibility of action; second, a clinical diagnosis of individuals to increase homogeneity of problem factors within groups; third, a student-centered, permissive relationship was encouraged, emphasizing the students' claimed problems instead of a teacher-determined goal; and fourth, provision was made for individual counseling for those who might desire or need it.

A clinical diagnosis was necessary to provide as much group homogeneity as is feasible in a clinically oriented situation. The first selection was actually made by the students in that only those students were considered who came to the Counseling Bureau asking for study help. These students revealed some motivation by their very act of seeking help. For further grouping purposes a battery of tests was administered that provided measures of general ability (the *American Council on Education Psychological Examination*), interests (the Kuder or Strong Vocational Interest tests), personality (the *Minnesota Multiphasic Personality Inventory*), and reading (*Cooperative Reading Comprehension Test*). As the use of test results in a blind diag-

nosis is a poor procedure at best, they became important only in relation to the clinical situation provided by a comprehensive personal data questionnaire and at least one individual interview. Such a screening method allowed classification into these general categories: (1) low ability—low achievement; (2) average ability or better—low achievement and with evidences of personal and/or specific educational problems; and (3) those who seemed to need only study-skills help.

This last group we will not be concerned with at great length in this paper as they were those university students more nearly in need of traditional study-skills help and seemed to be receiving adequate remedial help, on this basis.

Students seeking study help who, according to test results, have low ability and who have a consistent record of low achievement are not rare cases. The probation and drop lists of the various colleges are grim numerical evidences. With this group further instruction in study skills by the traditional lecture, recitation and practice methods with a brief glance at the clinical situation is absurd. On the other hand, these are failing students who need some kind of help. In their present state they are headed for continued failure and more serious adjustment difficulties. These students frequently state, "I spend so much time earning a 'D' in algebra that I fail my other courses." The trauma of always being near the bottom of the stack with the classification of "unsuccessful" imprinted semester after semester is not generally conducive to the formation of a well-balanced individual. These students, when placed in a competitive educational situation which makes them feel inadequate, tend to act emotionally rather than rationally. They are desperately avoiding an acceptance of reality. They use all sorts of methods to avoid situations and responsibility for situations. A student who says, "I read so slowly I can't finish my assignments," is not necessarily asking for help in the mechanics of reading. This may be his way of saying "I am failing, but it's not my fault, I can't read fast enough." Likewise, the student who asks, "Will you teach me some better study methods?" may not really want study facts. He may want something tangible to use as a self-excuse for his failure. His reading or study "block" is impregnable so long as it is acknowl-

edged and treated as a mechanical difficulty. His responsibility easily becomes your responsibility. You are to blame if he does not get better grades because you did not teach him to read faster or to study better. Forcing the facts on him, no matter how subtly, does not insure that the student will accept the responsibilities of applying those facts to his daily living. He has lost a sense of personal responsibility and is in need of a modification of attitudes.

Through group work and individual counseling such students become aware of their responsibility for their present situation. After a group discussion of attitudes concerning educational competition, interests, and previous poor grades in relation to future academic possibilities, they are frequently ready to face more squarely their present realistic situation. A feeling of self-responsibility evolves and tends to start the closure between a legitimate need and its realistic fulfillment.

The problem is then frequently restated, "I'm sure I can succeed at something, but what?" This offers an opportunity to explore occupational and educational information, with a goal in view of helping the individual to select a more feasible role in society.

The second general classification was those students with average college ability or better, low achievement records and with clinical evidences of personal and/or specific educational problems. This classification exemplifies a wide range of diversified problems: from the perfectionist with volumes of neatly cross-indexed notes who cannot recall a thing with his notebook closed; through the chronic case of exam jitters who knows all and forgets all when he walks into the exam room; to the rebel who is happiest when he can get by and brag about not cracking a book.

It is generally accepted that a student's present behavior is but the expression of an accumulation of his past. Two students with dissimilar past lives frequently have quite similar problems. The mere similarity of problems cannot then justify using the same predetermined set of rules to help these students.

The lack of specificity of expressed causes of why students study the way they do frequently causes difficulty in helping the student find the source of his problem.

Two students seeking study help regarding a given difficulty frequently express different complaints. One is apathetic; one aggressive. One says, "I know what the authorities claim to be good study methods, but they don't seem to work for me." The other says, "I know what the authorities claim to be good study methods, but I don't seem to want to do anything about them and I dislike studying anyway."

Explanation, exhortation, disapproval, suggestion or any other intellectual technique of teaching leaves little permanent impression on students in such situations. Teaching of this sort has evidently not been accepted before. What reason is there to assume that it will be now? The basic difficulty lies again in the attitudes, emotions and motivations behind previous and present learning. Therefore, the techniques used to remedy the situation must be related to study methods, but only as study methods are influenced by motivation and general behavior dynamics. This necessitates a flexible and varying technique since the motivational situation differs with each student within the group.

The permissively structured group-counseling situation, supplemented by individual counseling when desired, seemed to be the only technique that met those requirements.

To select a problem for discussion that affected all of the group in some manner was a difficult step, but a necessary one. A problem once chosen was easily made significant by the student's own personal experiences, arbitrary opinions, or opposite views and reported facts, and led to a discussion of study methods as well as to the motivations behind those methods.

A clarification or elaboration of attitudes or points of view gave ample opportunity to examine and evaluate possible solutions to problems. At no time was an agreement reached on any one solution, but by always providing a summarization that could be of help to each student, individual solutions were more easily recognized and accepted. Major emphasis was placed on clarifying questions and arriving at decisions more acceptable to the student and to the group.

The program as outlined does not demand a rigid diagnosis of study skills nor a rigid program of remediation. This program cannot be equated with traditional teaching as the emphasis

is placed on developmental learning of new habits based on adjustable education or relearning, rather than on an authoritative dispersal of information and drill.

Such a program follows the basic postulates of counseling in that it starts to work on the student's problem as he sees it, but provides ample opportunity for treatment of areas paralleling or not directly related to the claimed problem. Such a program is advantageous in that it permits a treatment of the student as a whole human being.

In evaluating the work to date we find that individuals participating in discussion groups of this sort report significant increases in grade averages; significant increases in reading speed and comprehension have been found by a test-retest method; and a retest on the *Minnesota Multiphasic Personality Inventory* indicates generally fewer and less extreme deviations on the Depression and Hysteria scales.

GENERAL DIAGNOSIS OF STUDENT FAILURE¹

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STUDENTS are admitted to a particular college on the supposition that they have "what it takes" to succeed. But it frequently turns out that they do not succeed—at least, not without help. They flunk out. The generally high mortality in the freshman year is detrimental both to the student and to the college. The experience of failure undermines the student's self-esteem; it also represents a financial loss to the college. Something is wrong with the admissions policy, with the orientation program, with the counseling service, with the curriculum or instruction, or, most likely, with a combination of these and other factors.

The causation of students' failures in college is complex. This is true of failure in academic work; it is even more true of the broader concept of college success and failure presented by Hale in his study of the transition from high school to college. This article, however, will be focused on failure to carry college subjects rather than on failure to achieve the all-round personal development to which a college education should contribute.

Actually the different aspects of college success are interrelated. The causes of failure in college subjects are found in the total pattern and atmosphere of college life as well as in the preparation, attitude, and ability of the individual student. Failure is a resultant of hereditary and acquired predispositions responding selectively to the stimuli of college life.

The general approach to students' failures in college subjects includes three main features:

1. An accurate description of the difficulty: In what way is the student failing?
2. An inquiry into the multiple causes: Just why is he failing?

¹ Excerpts from a paper read at a joint meeting of the American College Personnel Association, Thursday, April 21, 1949, Chicago, Illinois.

3. An attempt to correct the conditions that seem to be giving rise to failure.

Description of the Difficulty

It is the responsibility of every teacher to make clear to the student wherein he has failed to meet the requirements of the course. Psychological experiments have shown that persons do not improve if they are ignorant about how much or how little progress they are making. One does not improve in a subject if his practice in it is not accompanied by instruction and by a knowledge of the results of his practice. Very rarely in college is an analysis made of achievement in a subject, though this kind of analysis would be most helpful to the student. For example, success in a course in Freshman Composition might be broken down into the following components:

- Ability to use correct grammar
- Ability to punctuate correctly
- Ability to spell the words used
- Ability to construct paragraphs that have unity, coherence, and emphasis
- Ability to achieve similar unity, coherence, and emphasis in the composition as a whole
- Ability to use precise, vivid words in place of "empty," hackneyed words and phrases
- Originality and creativeness in the content of the composition
- Ability to catch and hold the reader's interest
- Promptness in handing in assignments
- Contribution to class discussion

A similar analysis of each subject, showing the points at which the student has failed to meet the requirements, would be a useful first step in dealing with failure. Such check lists could be supplemented by more detail about the specific kinds of errors the student is making, and could contain suggestions for overcoming them. If a teacher fails a student in his subject, he should be able and willing to show him exactly where his failure lies.

Causes of the Failure

Although some of the causes of a student's failure in a subject are suggested by an analysis of the failure, the real and

determining reasons usually lie deeper. The cumulative student personnel record throws further light on possible causes of failure. Read as a whole, with this particular educational guidance problem in mind, the cumulative record may reveal conditions that are giving rise to failure. One record may show generally low ability in high school, and in intelligence and achievement tests, thus indicating the need for a lightened program, extension of the college program over five years instead of four, or the election of subjects that do not demand the highest quality of scholastic aptitude. Another record may show a marked discrepancy between achievement and intelligence as measured by standardized tests. It may also show a heavy load of part-time work, excessive participation in student activities, or long and frequent week-ends at home. In short, many clues as to the causes of failure may be obtained from the records already available. These clues should be further explored in the initial interview with the student—usually the most important means of understanding the real causes of his failure.

In the first interview with a student failing in one or more subjects, it is important for the counselor to convey the conviction that the student has resources within himself to understand and to do something constructive about his failure. The counselor may present the failure as an opportunity for the student to learn not to fail that way again. The student should be encouraged to speak frankly and freely, using the counselor as an immediate incentive to achieve a clarification of the problem.

In the following case the initial interview seemed to have been successful in helping the student to analyze his situation. Ted had managed to get into college after his applications had been rejected by several institutions. His scholastic aptitude according to the tests given entering freshmen was approximately average for the group. All of his freshman marks at the end of the first semester were failing or on the borderline. His faculty adviser thought he needed help in "getting down to work and remembering what he has learned." Perhaps his poor marks were the result of too many good times, of poor study and reading habits, or both. The faculty adviser re-

ferred him to the Reading Center. These are a few excerpts from the first interview (typed from stenographic notes):

Worker: Suppose you tell me why you are here.

Student: Well, Professor M—— thinks I need help with study habits and with reading.

W. How do you feel about your reading and study habits?

S. I never thought there was anything wrong. I thought I was perfect—except that I never studied, really. I just let it go by. My average was 75 when I graduated. But in the seventh grade I was seventh highest in an IQ test—the teacher told me. She said I could really do the work if I wanted to. But I never did.

W. How do you account for your not studying?

S. Well, I don't want to blame others, but really, no one ever taught me to study, and so I never put my mind to it really. I just spent time with the fellows and friends. . . .

Later near the end of the interview, after the student had sat quietly for a few minutes, the worker said:

What are you thinking?

S. I guess I really don't know where I'm heading. I still think I like art, but I'm not sure. The struggle for jobs in that field is tough. I'm not sure I'm good enough. I know my Dad would like me to take up his business. Though, when I was looking for a job, he didn't ask me to work for him. I went out on my own. I don't like working for him. . . . I told him, though, I could try his business and see how I like it.

(The time was up and the next appointment was arranged.)

This initial interview suggests that the student had some emotional resistance to school achievement, and lacked a sense of direction and a motivation for college work. There seemed to be a conflict between the student's own interests in English and art and his father's insistence that he take a practical course leading to business. In this first interview the worker learned something about the student's oral and silent reading proficiency, his interests, his vocational dilemma, and his conflict about choosing a vocation. The student also gained some help on reading paragraphs of the sort of material he must master in college.

The interview on reading and study difficulties, whether a single contact or a series of conferences, usually follows this

general pattern: (1) the student, in a permissive, encouraging atmosphere, thinks through what the failure means to him, and how it came about; (2) after he has expressed his feelings about it and is trying to understand it, he welcomes help from the counselor in interpreting his feelings and seeing relations among different factors in the situation; (3) having gained some insights, he tries to determine what his next steps are to be; and (4) he leaves the interview with a plan of action in the carrying-out of which he feels he will have the interest and support of the counselor, to whom he can come for further help if he needs it.

Paths to Improvement

If the counselor has been successful in helping the student take an initiative toward solving the problem of his failure and the student has, through "talking it out," found what he believes to be the condition that is causing his failure, the student is ready to start work on correcting that condition. At this point, the counselor must be ready with specific resources to aid the student. If it seems clear that he needs a lighter program, modifications in the student's long-term educational plan must be made and approved. If the student is convinced that he would succeed if he could acquire more efficient reading and study methods, provision for such practice and instruction should be made. If he has a deep-seated sense of futility about the meaning, use, and purpose of a college education in general and especially of the subjects in which he is failing, he may be helped by counseling or by small group discussions that clarify the purpose of life, the relation of his vocational choice to life as a whole, and the possible contributions that his subjects may make toward his self-fulfillment. If his scholastic achievement seems to be blocked by emotional difficulties, psychotherapeutic counseling is indicated.

In working with college students who for various reasons are not making good in college, the counselor has the following responsibilities:

1. To encourage each teacher to describe the factors likely to cause failure in his subject.

2. To use all available personal data for clues by which to chart the constellation of causes for a student's failure
3. In interviews, to create an atmosphere which will free the student from constraint and stimulate him to try to get at the roots of his failure.
4. To make available to the student the resources he needs in order to carry out his plans for improvement.

This approach to the problem of scholastic failure is essentially student-centered. However, it uses the cumulative record and other objective information and makes available to the student all the relevant resources of the college and extra-college services which he may need in order to become a better student and a better person.

QUESTIONS FREQUENTLY ASKED CONCERNING READING INSTRUCTION AND MEASUREMENT OF READING SKILLS AT THE COLLEGE LEVEL

FRANCES ORALIND TRIGGS

Chairman, Committee on Diagnostic Reading Tests, Inc.

- I. WHAT are the ways in which reading disabilities can be discovered before grades are available to suggest their presence?
 - a) Scores on a screening or survey test in reading which has as low a correlation as is possible with scores on scholastic aptitude tests. Consideration should be given to making special help available to all students whose scores on such a test are at a stated percentile or below (depending on the facilities available for remedial help). This percentile point (using entering college freshmen norms) might be the thirty-fifth, the twenty-fifth, the fifteenth chosen arbitrarily the first year. The point chosen arbitrarily the first year should be evaluated during that year to determine: (1) to what extent facilities of the school can furnish aid to these students; (2) to what extent they improve when given special reading instruction; (3) how many remain in school after the first year. In the light of such evidence, the criterion for special reading instruction may be varied the next year.
 - b) The ability of students to handle verbal symbols as compared to their facility to handle numerical or quantitative symbols. This comparison may be made from scores on such a test as the *American Council on Education Psychological Examination* (Q & L scores), or the College Entrance Examination Board Scholastic Aptitude scores. If such scores are not available and scores on a so-called *Mechanical Aptitude Test* are, they may be compared to scores of general comprehension on a survey or screening test in reading. Another way some

information of this nature may be obtained, is from scores on a clerical test such as the *Minnesota Clerical Test*. If the score based on use of words is much lower than the one based on numbers, it is probable that the student could profit from formal training in reading; and there is a good chance that the difficulty will be his method of approaching new words, i.e., the ability to sound letter combinations, to divide words into syllables, to recognize meanings of prefixes, suffixes, etc.

- c) Dr. Robert M. Bear of Dartmouth makes a very practical suggestion. He states that if, when reading orally, a student reads less than 150 to 200 words per minute, (assuming no emotional involvement is present) it is likely that his reading skills will hinder him in his college work and that the disability will again be in the area of word recognition and word attack.
- d) By helping all faculty members to isolate and to refer those students who do not have the basic reading skills necessary for efficient, independent study of the basic sources being used in any class. The best way I know of doing this is to note the difference between the verbal response or discussion made by a student to concepts discussed in class, as against his responses made in quizzes over textbook assignments, the material for which he should have gained largely by outside preparation.

2. How shall the teaching of reading in college be approached? It is not possible to give a complete and final answer to this question within the confines of this manuscript. The following suggestions can be made.

Those of us who are interested in the field of reading have coined certain by-words which have come to mean something to us. I would like to stop here and give a working definition of these so that I may use them freely.

"Every teacher a teacher of reading." To me that means aiding a student to survey the reading problem he is faced with at the moment, aiding him to choose the reading approach most appropriate, and to use it. It has long been an accepted fact that during about the first six years of schooling, children are establishing reading skills; building

their general sight vocabularies, attaining facility with skills required to get meaning from new words, learning how to use grammatical construction when they read, and other related skills. Even if these skills are well established, their application to many and varied types of situations has not become automatic, nor will it until students have used them throughout the lengthy gamut of specialized reading materials presented to them in the process of formal education. Therefore, the teaching of reading never stops: all teachers must be teachers of reading.

"Developmental reading program" means this process of formal, planned reading instruction is done by every teacher of every subject at every level of education and in every class room, to aid students to choose and to use the reading skills most appropriate to the reading situation at hand.

The word "remedial" may be used in its generic sense, derived from the verb "to remedy." However, when used to distinguish "remedial" from "corrective" reading instruction, it has a more limited meaning. Reading disability cases may be grouped according to the degree of deficiency as: inefficient readers, corrective cases, and remedial cases. The inefficient reader usually has satisfactory reading skills but does not know how to apply them without reading instruction. Such instruction is given in the developmental reading program by every classroom instructor. In corrective cases some reading skills are lacking but usually only those that can be supplied without a great deal of difficulty, though the student must also be taught to use them efficiently through developmental reading instruction. Corrective reading may often be given through the use of "self-administering" manuals after an adequate diagnosis and discussion with the student have enabled him to understand the extent of his deficiencies. In remedial cases the individuals lack even the basic skills of word recognition and the instruction usually becomes a much more technical problem and is of a more complicated nature. Such instruction probably can best be handled through clinical work instead of through the regular developmental program in reading.

- a) Now to answer our question: "By whom and how shall the developmental reading program in college be carried on?" It is expected that the developmental reading program of any college will be carried out by all faculty members. By its very definition it must be so. Students will never come to college so equipped that they will not be faced by new learning situations, and reading is a tool of learning. Professors are constantly seeking ways of giving reading instruction in the classroom—a part of any efficient classroom instruction. This goes farther than words as tools also; it is a part of teaching in that concepts themselves once met and understood from discussion in the classroom, can be efficiently approached through reading; but they cannot be so approached unless this "readiness" is established. Thus, the classroom period becomes a place, not to repeat what the textbook says, for that can be read by any student well prepared by the classroom process of establishing "readiness," but for discovering and building concepts and "sets" which make independent preparation outside of class a rewarding experience. Again, it should be remembered that we are teaching individuals in a group, not a group of students, and we succeed in our task only as these students become less dependent upon classroom instruction; for the time will come very shortly when most of their learning will be done along avenues of their own choosing and on their own with little formal instruction. We as college teachers are not so much teaching the final unalterable facts in any field of learning as we are introducing students to concepts, laws, and terminology on which they can base further independent learning. Efficient use of reading skills, appropriate to any content field, is one assurance that the student can continue his learning in that field when he is no longer in the classroom. We must remember that a democracy is self-governing, that, ideally, every individual in it should make his contribution to that governing process to the extent of his ability to understand. He can do so only as he has tools with which to increase his background of knowledge independently on

any issue that arises, using materials which he can comprehend as a basis of his learning. An example: the Marshall Plan, the Western Alliance Pact, the E.C.A., or the Taft-Hartley Bill are all issues before the current Congress which have far reaching social import. It is true that the understanding which the college graduate and the cab driver can develop, and the sources from which they learn of these issues need not be the same, but unless what they think concerning these issues and thus what they do about them as citizens is going to be the result of the dictation of some party leader, they must have skills, and "set" or motivation to learn about them. Reading is the probable basic tool they will use. Both the college graduate and the cab driver went to school. Do they have the reading skills necessary to profit at the level of their own ability from efforts to learn about these social issues as independent learners? Can they not read the newspapers (notice I did not say "a newspaper"), the Public Affairs pamphlet on the subject? That is important just as surely as it is important to see that the scholar who is to continue in our universities until he gains the highest recognition offered—the Ph.D. degree—has efficient skills for further learning; for it is he within his lifetime who will extend our knowledge, and the world without him would be static. We must see that he is not handicapped or cramped in any way in making his very important social contribution.

b) And what of the corrective program?

We have said then that developmental reading, the development of efficiency in using reading skills already established, shall, ideally, be done by the professor in the classroom. By whom, and how, shall corrective and remedial reading instruction be given? (I am not even going to stop to argue the point that it must be done. Because a car should have been fully equipped when it came from the sales room, because its motor is inefficient when delivered, does not mean that the buyer must always use it in its inefficient state; but rather he should take the steps necessary to make it efficient.)

By very definition, corrective and remedial instruction to be done efficiently must be preceded by determining what skills are lacking. Testing and observation are the techniques by which this can be done. It cannot be expected that all of the professors in the classrooms can make such diagnoses for individuals. Therefore, as soon as it is apparent that a student's learning is handicapped by poor reading skills, the professor should be able to refer the student to a clinician who, in addition to being a psychologist, understands the psychology of reading and knows how to diagnose disabilities in this field. Much of the corrective work can be done in the classroom in combination with special help from the clinician and carefully guided outside work on the student's part. The clinician should give the professor clues as to the type of classroom work which would be most helpful to the student, and then make frequent requests for signs of progress seen by the professor as well as reporting progress being made in the clinic.

If the student needs carefully planned remedial instruction, he may not be able to profit from certain classroom instruction until remedial instruction has gained headway. Therefore, the recommendation may be made that he drop certain courses, give attention to remedial and corrective instruction, and register later in courses requiring the application of those basic skills.

- c) Shall corrective and remedial instructions be given in groups or must they be individualized?

Generally I think it can be said, the more serious the disability, the more likely it is that the first instruction should be individualized to the specific needs of the student. But if at the beginning of such instruction a careful plan is made and exercises are set up to develop the skills which are lacking, the student need not take the full time of the clinician while he works on the exercises. Other students working on their individual problems according to the plans set up to aid them in developing their needed skills, may work in the same room together. The clinician in this case is not only a specialist

in reading, but a specialist in teaching, aiding the student to keep up his motivation, noting and preventing frustration in the learning situation, and guiding transfer of the skills to the classroom and textbook situation. The aim is for each student to be as independent a learner as possible. Therefore, the clinician can most efficiently use his time, as well as help students, by aiding only where necessary and, as much as possible, by leaving the responsibility for learning to the student himself; but maintaining an atmosphere in which this learning can most efficiently take place.

- d) Shall credit be given for corrective and remedial instruction?

Remembering that the crucial test is whether the student becomes a more efficient learner, this question becomes important only as it aids in administering the program. If the cost must be shown to be covered in the budget, and students pay for instruction by points, then to give it credit does not seem to violate any important principle of college administration. This is especially true when we remember that, if successful, this is probably some of the most important learning a student will do throughout his whole college career. More important here is that if he is given credit, then this work will probably be placed with other courses in a time schedule, recognizing the fact that it does take time. Far too often, the work fails because a student, handicapped already by inefficient reading skills, is further handicapped by adding to the load he is expected to carry.

3. Can a reading program be carried on in college without a specialist in reading?

I would say the answer is, yes—a part of it can; all except the remedial aspects and the special help to professors to isolate reading problems in their own fields, if a psychologist who thoroughly understands testing and interpreting tests can help students find self-administering manuals to follow. The psychologist and the professor should also study the manual and give special help to the student where necessary. In

such a case, the help of the professors with whom he is carrying course work, will aid in insuring a transfer of the skills so learned to the content fields. It should be recognized that this is not the ideal, however, and should be supplemented if possible by consulting help from a psychologist who is also a specialist in reading.

4. How can professors be aided by the specialist in reading so that they can become teachers of reading as well as of content material?

The answer to this question has been suggested. Special reading problems exist in all content fields. The professor is aware of them, but does not always know how to make the students aware of them. This the reading specialist can help him with. Also he may recognize but not have time or know how to give a student lacking certain skills the help he needs. Such a student he can refer, verify his own impressions, and get suggestions for helping him. Free transfer of information, including progress reports on individual students and suggestions for classroom help by the professor according to the student's individual needs, is a most important aspect of a constructive relationship between the professor and the reading clinician.

PRESENT POLICIES AND FUTURE PLANS OF COLLEGE GUIDANCE CENTERS OPERATING UNDER V. A. CONTRACTS—A SURVEY OF THE AMERICAN COUNCIL ON EDUCATION

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As early as March, 1945, some months before V-E Day, the Veterans Administration published in *Occupations, The Vocational Guidance Journal* a statement of their preliminary plans "to provide counseling and guidance services to veterans, both the disabled and any others who desire and who are entitled to such services, at an adequate number of college centers, so located as to be convenient to veterans' homes." It was decided to locate such centers at the colleges and universities of the country for the reasons that these institutions "(1) usually have on their staffs persons who are skilled in the administering of educational or vocational tests and measurement and the various kinds of counseling; (2) generally are equipped to provide space and accommodations for the counseling procedure as well as the necessary dormitory and boarding facilities for those who come to receive counseling."

Additional reasons for establishing V. A. Guidance Centers on college and university campuses were set forth by Dr. Ira Scott in a talk before the American Federation of the Physically Handicapped at the National Press Club, Washington, D. C., on April 18, 1945:

The plan for providing complete and thorough counseling service to veterans by establishing guidance centers in cooperating colleges and universities utilizes the services of qualified counselors and thus gives to veterans the best service the country has to offer now; it enables these counselors to improve their techniques through practical service; it offers them an unusually practical setting for training other counselors; and it furnishes the personnel in institutions of higher learning an exceptional opportunity to come to know and understand the feelings, the aspirations, and the everyday problems of the re-

turning veterans. *This should result in more effective future service by such institutions, not only to veterans but to other students and to other citizens who may be interested in the permanent improvement of adult counseling services in their own communities.*

Thus, the Veterans Administration College and University Guidance Program came into being. By 1 December, 1948, 415 such centers had been activated, or one for approximately every four colleges and universities in the U. S. By 1 March, 1949, it is estimated that 1,000,000 advisements had been provided for veterans in the college and university V. A. Guidance Centers.

By December, 1948, the program which has mushroomed through a four-year period had begun to decrease in size as the number of veterans needing testing and vocational counseling began to decline. Of the 415 centers which had been in operation, 105 or 25 per cent had already been deactivated, and it was anticipated that the deactivation rate would soon be accelerated. It seemed to be an appropriate time to take stock and to try to ascertain to what extent Dr. Scott's hope, expressed in his talk of April 18, 1945, of stimulating colleges and universities to provide more adequate testing and vocational counseling services, not only to veterans but to other students and to adults in the community, had been realized.

The speaker approached the American Council on Education in regard to such a study and was offered the necessary support and cooperation to make it possible. An Advisory Committee consisting of the following was established to review the proposed plan of investigation and to assist in an advisory capacity in the conduct of the study: Dr. A. J. Brumbaugh, Dr. Robert H. Mathewson, Miss Phoebe L. Overstreet and Mrs. Janet S. Kirshner. The V. A. has been most cooperative in supplying all requested information and data, but since the investigation was, in a sense, an evaluation of V. A. influence, it was decided not to include V. A. personnel on the Advisory Committee.

On 1 December, 1948, at the time this study was begun, 415 V. A. Guidance Centers had been activated under the auspices of educational institutions. Of this number, 310 or 75 per cent were still in operation; 105 or 25 per cent had already been

deactivated. Thirty-six per cent of these Guidance Centers were Plan A Centers in which the institutional personnel did both the testing and the counseling; 43 per cent were Plan A-B Centers in which the institutional personnel did both testing-counseling and testing only for cases which were counseled by V. A. personnel; 21 per cent were either Plan B Centers in which the institutional personnel did testing only or Plan C centers in which V. A. personnel did both the testing and the counseling and the educational institution provided only the physical facilities. It was decided to limit the study to Plan A and Plan A-B Centers so as to include only centers in which the counseling service was provided by institutional personnel. In the selection of centers for inclusion in this study the following additional criteria were established: (1) The Center must have been in operation for at least two years. (2) The Center must have been in operation as late as June, 1948. It was felt that unless the Center had been in operation for at least two years, it had not had a reasonable opportunity to demonstrate its values and defects. Centers which had closed their doors before June, 1948, were not included because we doubted if qualified personnel would still be on the scene to answer the questionnaires.

Of the 327 Plan A and Plan A-B Centers which had been activated, 84 were eliminated under the provisions stated above, leaving 243 Centers to be contacted for purposes of the study.

The following letter was sent to the presidents of the colleges and universities at which the V. A. Centers were located:

My dear Colleague:

During the past four years approximately 388 colleges and universities have cooperated with the Veterans Administration in operating a Veterans Guidance Center. In many instances the services of the Center have been available not only to veterans under the Veterans Administration contract but to student non-veterans and to clients from the community. Now that the influx of veterans is diminishing, the number of Centers operating under Veterans Administration contracts is beginning to decline. Many college and university administrators are now confronted with the problem of determining future policy with respect to the testing and vocational counseling services formerly maintained with Veterans Administration financial support.

The survey is designed to determine the present status of the counseling service provided at educational institutions under the Veterans Administration program with particular reference to whether these institutions are considering plans for continuing such services and, on the basis of the impetus provided by the Veterans Administration program, to furnish such services to students and the community-at-large. It is believed that administrators in higher education will find it helpful to know something about the experience and future planning of the various institutions confronted with the same problem.

The enclosed questionnaire consists of two parts: Part I calling for factual information which may well be referred to the Director of the Guidance Center or other administrative officer who has access to the statistical data required; Part II calling for an evaluation and statement of probable future administrative policy. Obviously the latter can be answered only by the college or university official who will be responsible for recommending or establishing future policy. Replies to Part II will be kept strictly confidential and will be used only in computing overall policy trends. They will not be revealed to the public or even to members of your own staff. For convenience in filling out the questionnaire, Parts I and II may be separated and later reassembled for return. When you return the questionnaire, please attach copies of any available studies showing the effectiveness of the testing and vocational counseling provided by your Guidance Center.

In return for your cooperation we shall make available to you a summary of the findings. This study is being conducted under the direction of Dr. Mitchell Dreese who is on sabbatical leave from The George Washington University as Professor of Educational Psychology and Dean of the Summer Sessions. I am sure Dean Dreese will be pleased to answer any specific questions you may wish to raise concerning this study. In order that the survey may be tabulated in time to be of greatest value, we should appreciate having your questionnaire returned not later than January 15, 1949. The questionnaire should be mailed to The American Council on Education, 744 Jackson Place, N. W., Washington 6, D. C., Attention: Dean Mitchell Dreese, Director of Study.

Sincerely yours,

A. J. Brumbaugh
Vice President

I shall not bore you by reading the questionnaire itself but shall refer to many of its items later as we consider the responses to them. In general, Part I of the questionnaire was concerned with two types of data: (1) Identifying data concerning the institution for purposes of classification, such as the type of

institution, the location, enrollment, average number of counseling cases processed per month, etc. (2) Current administrative policies and practices within the Center. These policies and practices will be summarized later. Part II of the questionnaire was designed to ascertain future administrative plans for the testing and vocational counseling services provided by V. A. Guidance Centers. In brief, the College or University President was asked to indicate by an appropriate check on the questionnaire what he planned to do with the Guidance Center when the V. A. contract was no longer in effect. There were three major possible replies with many qualifying sub-statements under each: (1) "Continue it essentially as at present," (2) "Discontinue the Center," and (3) "It is impossible to say at the present time what will be done with the Center." After the President had stated his intention with respect to the future of the Center, he was asked to check a series of possible statements setting forth the considerations which motivated his expressed decision. These considerations were arranged in three groups pertinent to the three courses of action referred to above, and the group to be checked by any particular president would depend upon whether he was planning to continue the Center, discontinue it, or was uncertain at the present time. Part II also contained fifteen statements concerning the possible influence of the V. A. Guidance Center on the student personnel program with requests for appropriate checks, regardless of the future plans for the Center.

All of the sections of the questionnaires contained spaces to fill in additional reasons and comments as desired so that the repertoire of responses was not necessarily limited to the statements on the questionnaire. It was deemed necessary to utilize a plan of controlled responses so as to insure attention to major considerations and to facilitate coding and tabulation of replies. From the 243 questionnaires mailed, replies were received by 1 February, 1949, from 164 institutions, of which 154 or 63 per cent were used for purposes of tabulation. Ten replies had to be discarded because only one part of the questionnaire was returned or the educational institution replying proved to be a secondary school rather than a collegiate institution. Twelve replies were received too late to be included

in the study, but a sampling check of their replies indicated that these late returns would not change the results.

The institutions whose questionnaires were included in this study are classified in Table 1.

Of the number replying, slightly more than two-thirds were public institutions and one-third were private colleges and universities. Of the total number, approximately half were universities, one-fifth liberal arts colleges, and roughly one-tenth each from the professional-technical, junior colleges, and teachers colleges.

The geographic distribution of the colleges and universities sampled may be summarized as in Table 2.

It is regrettable that replies are not available from 79 institutions which had V. A. Guidance Centers meeting the

TABLE 1
Classification of Colleges and Universities Whose Questionnaires Were Included in Study

Type of Institution	Public		Private		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
University	47	30.5	27	17.5	74	48.0
Liberal Arts College	15	9.7	15	9.7	30	19.4
Professional or Technical	11	7.1	6	3.9	17	11.0
Junior college	15	9.7	1	0.7	16	10.4
Teachers College	17	11.0	0	0	17	11.0
Total	105	68.2	49	31.8	154	99.8

criteria of this study. It is believed, however, that the population sampled, 63 per cent, represents a cross-section of the total V. A. Guidance Centers. Of the total to whom questionnaires were sent, 89 per cent were still in operation; 11 per cent had been deactivated. Of the Centers replying, 90 per cent were still in operation; 10 per cent had been deactivated. The similarity of 89 to 90 and 11 to 10 is striking.

The sampling of 63 per cent is somewhat higher than the response usually secured by the American Council on Education on questionnaire surveys of colleges and universities.

As stated previously, Part I of the questionnaire was concerned with present practices of V. A. College and University Guidance Centers. The data revealed that the median number of cases processed per month during the total period of operation was 70 as compared with a median of 56 for the past six

months. This decrease is evidence of the declining case load in the Centers still operating. The largest case load was in the five private professional-technical schools (median, 143 per month—total period of operation); followed by the 26 private universities (median, 115 per month—total period of operation). The smallest case load was in the 15 public liberal arts colleges with a median of 34 per month for the total period of operation. The 47 private institutions as a group

TABLE 2
Geographic Distribution of Colleges and Universities Contacted and Responding

Geographic Area	Contacted		Responding	
	Number	Per Cent	Number	Per Cent
New England	5	2	3	60
Central Northeast	45	18	34	76
South	51	21	33	65
Midwest	52	21	41	79
Central Northwest	24	10	16	67
Southwest	29	12	15	52
West Coast	36	15	22	61
Outside U. S. A.	1	1	0	0
Total	243	100	164	

New England—New Hampshire, Maine, Vermont, Massachusetts, Rhode Island, Connecticut

Central Northeast—New York, Pennsylvania, Maryland, New Jersey, West Virginia, Delaware

South—District of Columbia, Virginia, Kentucky, North Carolina, South Carolina, Tennessee, Arkansas, Louisiana, Mississippi, Alabama, Georgia, Florida

Midwest—Ohio, Indiana, Illinois, Michigan, Wisconsin, Missouri, Iowa, Minnesota

Central Northwest—North Dakota, South Dakota, Nebraska, Kansas, Colorado, Wyoming, Montana, Idaho, Utah, Nevada

Southwest—Arizona, New Mexico, Oklahoma, Texas

Far West or West Coast—Washington, Oregon, California

Outside U. S. A.—Puerto Rico

Of the returns utilized, three were from New England, 34 were from the Central Northeast, 33 were from the South, 41 were from the Midwest, 16 were from the Central Northwest, 15 from the Southwest, and 22 from the West Coast. The per cent of returns by sections ranged from 52 to 79, with the Midwest highest and the Southwest lowest.

had a case load of 114 per month for the total period of operation as compared with median of 64 for the 103 public institutions supplying data on this question. However, the private institutions had shrunk to a case load of only 80 during the past six months, a decline of 30 per cent, while the public institutions had decreased from a median case load of 64 to 48 or 24 per cent. Apparently business is declining slightly more rapidly in the private institutions with their relatively larger case loads.

Let us turn our attention to the question of how many Centers made their services available to student non-veterans as well as to veterans. The institutions were not compensated, of course, by the V. A. for non-veteran students. Sixty-six per cent, or two-thirds, checked "Yes" to the question of whether they served non-veteran students. It was rather surprising to find that this policy was more prevalent among private institutions than public colleges and universities. Thirty-nine per cent of the public institutions did not serve non-veteran students as compared with 22 per cent for private institutions. In the 19 smaller private universities with less than 10,000 students only three catered only to veterans; in the eight larger universities the ratio was 50-50. Of the 15 public junior colleges, only two restricted their services to veterans. In later published accounts of this study we hope to present the per cents for all types of institutions, public and private. For obvious reasons it is not feasible to attempt to present them orally now.

Of the 66 per cent of the institutions which provided testing and counseling services to non-veteran students, slightly more than two-thirds did so without charge. In the public institutions whose V. A. Guidance Centers accepted non-veteran student clients, eight out of 10 did so without charge as compared with five out of 10 in the private institutions.

Of the 32 institutions which reported the amount of the fee charged non-veteran students, the median was \$20 with a Q^1 of \$8 and a Q^3 of \$20. The effect of the V. A. rate of \$20 is apparent. In the 13 public institutions reporting data on fees to non-veteran students, the median fee was only \$8.

Another item of popular interest is the extent to which the testing and counseling services of the Center have been available to non-veteran clients from the community. The V. A., of course, did not pay for this service. In general, the practice was approximately 50-50, with 55 per cent answering "Yes" and 45 per cent "No." In the 49 private institutions, however, two out of three accepted community non-veteran clients. The median fee for community non-veteran clients for all colleges and universities was \$20, the same as the non-veteran student. In the public institutions the median fee was \$20, the same as

in private colleges and universities. The Q^3 of private institutions, however, was \$25 as compared with a Q^3 of \$20 in public institutions. Apparently the price ceiling was a bit higher in private institutions.

What proportion of the case load consisted of clients from the community and non-veteran students from the institution? In an effort to answer this question the following item was inserted in the questionnaire:

Within the past six months, what proportion of new cases processed by the Center have been

- A. Veterans from your own institution? _____
- B. Non-veterans from your own institution? _____
- C. Veteran clients from the nearby community? _____
- D. Non-veteran clients from the nearby community? _____

Twenty-one of the 154 institutions were unable to answer this question because they kept no records by such a breakdown. The 133 reporting stated that 52 per cent of their clients were veteran clients from the nearby community, 33 per cent veterans from their own institution, 11 per cent non-veterans from their own institution, and 3 per cent non-veteran clients from the nearby community. This information reveals that only 15 per cent of the clients were non-veterans. The distribution of clients among these four categories was essentially the same for both private and public institutions. The per cent of non-veteran clients from the nearby community was slightly higher in the private institutions, 5 per cent as compared with 2 per cent in public colleges and universities.

The proportion of non-veterans from their own institutions was relatively small, only 11 per cent. The distribution of various types of clients in the various types of institutions was remarkably consistent. It is rather surprising that the case load consisted of so few non-veterans from the institution in view of the fact that more than half of the Colleges and Universities answered "Yes" to the following question: "Has the V. A. Guidance Center been regarded as an integral phase of the institutional program so that student veterans as well as non-veterans have been systematically and continuously referred to it from other departments of the institution?"

The final question on Part I of the questionnaire was: "Prior

to the inauguration of the V. A. Center, was there existent on campus a centrally organized service with a director in charge responsible for testing and counseling students in regard to their vocational plans?" Slightly more than half of the institutions answered "No" to this question. Among the private institutions, two out of three had not had previously a centrally organized service. In view of the importance of this particular question and its interest to people in various types of institutions, I shall run the risk of confusing you and give the per cents of all types of institutions which stated that they had *not* had previously a centrally organized service with a director in charge responsible for testing and counseling students in regard to their vocational plans:

Type of Institution	Private		Public	
	Number	Per Cent	Number	Per Cent
Small University	15	79	15	56
Large University	3	38	7	35
Liberal Arts College	11	73	8	53
Professional or Technical	4	67	6	54
Junior College	—	—	9	40
Teachers College	—	—	9	53
Total	53	67	54	51

And now we come to the "sixty-four dollar question": "When the V. A. contract is no longer in effect, what do you plan to do with the Guidance Center?" Only four of the 154 institutions reporting stated that they were planning to discontinue the Center and abandon the testing and vocational counseling service. Six of the 154 Colleges and Universities reporting indicated that they were planning to discontinue the Center and continue to offer testing and vocational counseling under a decentralized program. Fifty-seven per cent went on record to the effect that they intended to continue the Center essentially as at present. Twenty-five per cent reported that they were planning to discontinue the V. A. Guidance Center as now organized but would continue to offer the testing and counseling service in a newly organized (or reorganized) manner as a part of a systematic guidance program. Apparently there was some confusion in replying to the query as to whether or not they planned to discontinue the Center. From the qualifying remarks it was apparent that most of the institutions which stated they planned to discontinue the Center but con-

tinue to offer testing and counseling service, interpreted "discontinuing the Center" to mean discontinuing the V.A. relationship, discontinuing the present administrative set-up for the Center, or making other changes in the organization of the Center.

Thirty-six institutions, or 23 per cent of the total of 154 replying, stated that it is impossible to say at the present time what will be done with the Center. Twelve of these also checked that they were planning to continue; five that they would discontinue. Many of these qualified their answers to indicate that they would make every effort to continue it in some form or other. An analysis of these qualifications will be presented a little later.

One hundred and twenty-six or 82 per cent of the 154 institutions reporting stated that they planned either to continue the Center essentially as at present or to continue to offer the testing and counseling service in an organized manner as a part of a systematic program. Of these 126 institutions, 87 or 57 per cent stated unequivocally that they were planning to continue the Center essentially as at present. Sixty-five per cent of the private colleges and universities took this position as compared with 52 per cent of the public institutions. Let us examine the more detailed future plans in these 87 institutions. Four out of five stated that they would make their services available to all interested students and of this number two-thirds indicated that the service would be without charge. Some institutions indicated that the service would be without charge to students referred by a student personnel officer and on a fee basis to others. Approximately one out of four replied that the service would be on a fee basis after the V. A. contract had expired. Eighteen per cent, mostly private institutions, thought they could best handle the situation by increasing the activity fee for all students. Four institutions hoped to finance the program by philanthropic support. Only one institution out of six plans to limit the service to students having special needs.

Seven out of 10 institutions planning to continue the Center essentially as at present, plan to make its services available to interested clients from the community, largely on a fee

basis. Only 11 per cent of those planning to serve the community plan to do so without charge and all of these colleges and universities are publicly supported institutions.

I stated previously that 36 institutions, or 23 per cent of the 154 returning usable questionnaires, stated that it was impossible for them to say definitely at the present time what will be done with the Center. Let us consider some of the reasons which they gave for their indecision. Nine out of 10 stated that a decision was dependent upon the availability of funds. All but one of the 18 publicly supported institutions who were undecided stated that it was a matter of budget. Apparently the availability of qualified personnel is not too serious a problem, for only one-fourth of the institutions still undecided checked that availability of qualified personnel would influence their decision. Four out of 10 went on record as saying that their decision would depend upon further evidence as to the need for the service. Only one-sixth of the institutions still undecided were of the opinion that further evidence was needed as to the value of the service before they made their decision.

What were the considerations which lead the college or university administration to continue the Guidance Center after the V. A. contract is no longer in effect? A series of four statements was presented in the questionnaire to be checked if appropriate. Plenty of space was left for stating other considerations which affected the decision but there were very few reasons added. One hundred and eighteen colleges and universities checked the considerations which influenced them in deciding to continue the Center. These included the 87 institutions that had made a definite statement to continue the Center essentially as at present, as well as 31 additional institutions which planned to offer the testing and counseling service in a newly organized or reorganized manner, or stated on the questionnaire that they were undecided at the present time concerning the future of the Center but hoped to continue it. Slightly more than one-third of the 118 institutions replying to this section of the questionnaire stated that "Testing and vocational counseling through a Guidance Center were in operation here before the V. A. contract went into effect and we

shall be returning essentially to our former program." Thirty-eight per cent of the public institutions and 30 per cent of the private institutions made this statement. Only three of the 16 private universities with an enrollment under 10,000 stated that in continuing the Center they would be returning essentially to a pre-V. A. program. Four of the five private professional-technical colleges or universities and 10 of the 17 large public universities indicated that by continuing the Center they would be returning essentially to a pre-war guidance program.

Two-thirds of the institutions went on record as saying that "The V. A. Guidance Center has demonstrated the value of testing and vocational counseling as an organized service which we wish to incorporate into our program of student personnel services." In an examination of these data, it was observed that many institutions which did not check this reason were colleges and universities which had had a Guidance Center before the V. A. program was inaugurated and felt that they were returning essentially to it. Sixty-eight per cent of the private institutions, as compared with 59 per cent of the public institutions, voiced the opinion that the V. A. Guidance Center had demonstrated a service which they wished to incorporate in their program of student personnel services. This opinion was most prevalent in the small private universities and the public professional-technical schools. The only marked deviation from the trend of replies to this question was in the large public universities with a per cent of 30. This is undoubtedly attributable to the fact that 59 per cent of these large public universities felt that in continuing the Center they were returning to a previously accepted student personnel service.

The following possible reason for continuing the Center was included among the list of considerations which might be checked. "Students, both veteran and non-veteran, have come to accept testing and vocational counseling as a legitimate institutional service and expect the institution to continue to provide this assistance." Fifty-eight per cent of the institutions checked this reason. The replies were very consistent among the various types of private and publicly supported

colleges and universities. The only marked deviation was found among the twelve public junior colleges of whom only 25 per cent checked this reason for continuing the Center.

Approximately half of the colleges and universities planning to continue their Guidance Centers, specified as one of their reasons that "The need for testing and counseling services available to non-student clients has been expressed by representative agencies and members of the community." Fifty-seven per cent of the private institutions checked this as a reason as compared with 43 per cent of the public institutions. Eighty per cent of the large private universities and 70 per cent of the private liberal arts colleges gave this as a reason for continuing the Center. It is rather surprising that the private institutions were more sensitive to the expressed desire of representative agencies and members of the community than were the public institutions. Only 33 per cent of the small public universities gave public pressure as a reason for continuing.

Another section of Part II of the questionnaire dealt with the considerations that entered into a decision to discontinue the Guidance Center. Only 25 institutions elected to answer this section. These consisted of 4 who were planning to abandon the service, 6 who were planning to decentralize the guidance program, and 15 who were still undecided but leaning toward discontinuing the Center. Of this number one-third gave as their reason, "It is primarily a program for veterans and the need either has been or will have been met." Only *one* of the 25 colleges and universities stated that it was planning to discontinue the Guidance Center for the reason that "The value of the service for students generally has not been adequately demonstrated." This one institution was a small private university whose identity must be carefully concealed from this audience. Seven out of 10 of the institutions reporting checked the reason for discontinuing as "The cost of maintaining the service without V. A. or other outside support is prohibitive." Two institutions inserted the statement on the questionnaire that lack of space and facilities was the reason for planning to give up the Guidance Center.

In an attempt to tap general attitudes concerning the in-

fluence of the V. A. Guidance Center on the student personnel program of the institution, a series of statements was presented with the request that the pertinent statements be checked. The college and university administrators were requested to give their reactions to these statements regardless of what they planned to do in the future with their Guidance Center. These statements will be considered one by one. One hundred forty-nine of the 154 colleges and universities gave their reactions to these statements:

1. Counsel of doubtful value has actually caused a considerable number of students and faculty to question seriously the worthwhileness of testing and vocational counseling.

Only one institution, a public liberal arts college, checked this statement as true. And if you are from a public liberal arts college, I am sure it is not your institution.

2. The influence has been negligible.

Only five institutions out of 149 or 3 per cent stated that the influence had been negligible. Four of these 5 institutions were publicly supported colleges or universities, 2 of these were junior colleges.

3. The service has not been sufficiently integrated into the institutional program so that it has been adequately known and utilized by either faculty or students.

Thirty institutions, or 20 per cent, voted that this statement was true. On this item the proportion of private institutions voting "Yes" was twice as great as among public institutions.

4. The service is probably worthwhile but cannot be maintained without outside support such as was received under the V. A. contract.

One out of five indicated that this was true, with the proportion from the private institutions twice as great as from the public institutions.

5. The service has been worthwhile for veterans but will not be needed when student veterans are no longer present in considerable numbers.

Six per cent felt that the service would no longer be needed when student veterans were no longer present in considerable

number. Apparently the value of a testing and vocational counseling service for college and university students is now overwhelmingly accepted. Seven of the nine institutions were publicly supported colleges and universities, with a vote of one or two from each type of public institution.

6. The services provided by the Guidance Center must be continued although the Center itself may not continue to function as an operating unit.

Forty-four per cent of the institutions indicated that this was true. An inspection of the data reveals that many institutions which did not check this statement as true had already indicated that they were planning to continue the Center *per se* and were therefore not much concerned about the problem of preserving the testing and counseling functions without a Center organization.

7. The need for testing and vocational counseling has been demonstrated so clearly that with minor modifications the Center must be continued.

Fifty per cent of the institutions checked this statement as true. It is rather surprising that this per cent is not larger in view of the fact that 80 per cent of the institutions reporting had stated previously that they planned either to continue the Center essentially as at present or to continue to offer the testing and counseling service in an organized program of vocational guidance. Possibly many of these institutions who felt that they would have conducted an organized guidance service with or without the V. A. Guidance Center demonstration, thought it unnecessary to check this particular reason.

8. The Guidance Center has influenced our student personnel program in the following ways:—followed by eight possible statements to be checked.

Eighty-seven per cent of the institutions returning usable questionnaires chose to answer this section; 13 per cent did not commit themselves to any of the following statements:

- a. It has demonstrated the need and the demand for testing and vocational counseling services.

Six out of 10 of the 134 institutions which answered this section checked that the Guidance Center had demonstrated

the need and the demand for testing and vocational counseling services.

- b. It has shown the practical value of testing and vocational counseling services in helping students make better adjustments in college.

Approximately three-fourths of the institutions replying checked this statement as true.

- c. It has stimulated discussion and study of the whole problem of providing testing and counseling service for more students on a systematic and coordinated basis.

Again, approximately three-fourths of the colleges and universities responding stated that this statement was true.

- d. It has developed new techniques and procedures in testing and counseling.

Only one-third of the colleges and universities responding checked this statement as true. Apparently the institutions felt that the program had been largely implemented by existing techniques and procedures rather than through the development of new methods and tools.

- e. It has provided additional equipment and materials which will be of value after the V. A. contract is no longer in effect.

Slightly more than two-thirds of the institutions responding checked this statement as true. Presumably these materials and equipment provide a back-log of counseling facilities and resources which the institutions are planning to put to good use in more than two-thirds of the colleges and universities.

- f. It has developed trained personnel who will continue to be of service to the institution.

Approximately two-thirds of the institutions checked this statement as true.

- g. It has resulted in an expanded budget for testing and counseling which will make it easier to maintain such services in the regular institutional budget even after V. A. funds are no longer available.

Forty per cent of the institutions checked this statement as true. Among the public institutions the per cent checking this statement true was twice as great as among private colleges

and universities. In all, 54 institutions felt that their present expanded budget for testing and counseling would make it easier to maintain budgetary provisions for this program after V. A. funds are no longer available.

- h. It has provided a laboratory useful in the training of psychometrists, counselors, and other student personnel workers.

Three out of 5 of the number responding checked this item as true. In the large private universities 84 per cent marked this item as true, and in the large and small public universities 78 per cent indicated that this statement was true. Naturally, in the smaller institutions the training function of the program received a smaller vote.

Under remarks pertaining to the above eight questions many institutions volunteered the comment that they had been sold on the value of testing and vocational counseling for college and university students but that they planned to make many short-cuts and modifications of procedure when they no longer had to follow the prescribed V. A. pattern. I am sure that the Vocational and Rehabilitation Division of the Veterans Administration would be quick to grant that certain records and forms could well be modified, or dispensed with, in a college set-up, in which the problem of transferring records from one region to another does not exist. On the other hand, the use of these standard forms is likely to result in more uniformity in forms in college guidance centers long after the V. A. College Guidance Program is history.

What may we conclude from this survey of the present administrative policies and future plans of College and University Guidance Centers operating under V. A. contracts? The following conclusions seem warranted:

1. In establishing the V. A. College and University Guidance Centers, the V. A. was motivated primarily by the desire to provide high-quality testing and vocational counseling for veterans in strategically selected locations, but was also mindful of the possible desirable influence of this program on student personnel work generally and on collegiate sponsored adult guidance centers.

2. Two-thirds of the Centers have been making their services available to student non-veterans as well as veterans. More than two-thirds of these colleges and universities provided this vocational guidance service to non-veteran students without charge. In the publicly supported V. A. College Guidance Centers, approximately four-fifths of the Guidance Centers served non-veteran students without charge. Where a charge was made, the median fee for all types of colleges and universities was \$20 although in the public institutions the median fee was only \$8.

3. Half of the Centers have been offering testing and counseling services to non-veteran clients from the community. This practice is much more prevalent in the private institutions. The median fee is the same as for non-veteran students, \$20, although in the private institutions a Q³ of \$25 reveals that one-fourth of the clients pay above that amount.

4. More than half of the case load of the Centers consists of veteran clients from the nearby community, one-third veterans from the collegiate institution housing the Center, one-tenth non-veteran students from the local college, and only 3 out of a 100 are non-veteran clients from the nearby community. The proportion of non-veteran students served is puzzlingly low in view of the fact that almost two-thirds of the colleges and universities stated that student non-veterans, along with student veterans, have been systematically and continuously referred to the Center.

5. Prior to the inauguration of the V. A. College Guidance Center, more than half of the institutions did not have a centrally organized testing and vocational counseling service with a director in charge. This was particularly true in the private institutions.

6. Only 10 of the 154 colleges and universities reporting stated definitely that they plan to have no Guidance Center when the V. A. contract has expired, and of this number six indicated that they were planning to offer testing and vocational counseling under a decentralized program.

7. Four out of five institutions reported that they planned either to continue the Center essentially as at present or to continue to offer the testing and counseling service in a centrally organized program.

8. Eighty per cent of the institutions, planning to continue the Vocational Guidance Center, are planning to make its services available to all interested students, and 3 out of 5 are planning to provide this service without charge. The other Centers planning to continue will operate on a fee basis or by an increase in the student activity fee. A few institutions are looking for philanthropic support to continue the service.

9. Approximately one-fourth of the colleges and universities stated that it is impossible to say definitely at the present time what will be done with the Center although many of them stated that they will continue if it is financially possible. Nine out of 10 of the colleges and universities still undecided stated that it was a matter of funds.

10. Seven out of 10 institutions planning to continue the Center will make its services available to clients from the community, largely on a fee basis.

11. The reasons most frequently advanced by 115 colleges and universities for deciding to continue the Center were:

- a. The V. A. Guidance Center has demonstrated the value of testing and vocational counseling as an organized service which we wish to incorporate into our program of student personnel services;
- b. Students, both veteran and non-veteran, have come to accept testing and vocational counseling as a legitimate institutional service and expect the institution to continue to provide this assistance;
- c. The need for testing and counseling services available to non-student clients has been expressed by representative agencies and members of the community.

12. Only *one* institution of the 23 colleges and universities which advanced reasons for discontinuing the Center stated that "The value of the service for students generally has not been adequately demonstrated."

13. A series of checked statements on the possible influence of the V. A. Guidance Center on the student personnel program revealed that a continuing need for the service was recognized, that the testing and counseling program to date had been highly satisfactory, and that it must become an integrated part of a comprehensive student personnel program. The institutions responding were generally of the opinion that few new guidance techniques or procedures had been developed,

and expressed an intention to simplify forms and procedures when no longer under V. A. contract. The training of qualified personnel, the availability of basic equipment and materials, and a currently expanded budget which will make it easier to maintain vocational guidance services in the future, were advanced as major tangible gains resulting from the V. A. College Guidance Program.

It is apparent that testing and vocational counseling on the college and university level has received real impetus from the V. A. Guidance Program and that with minor modifications the programs will continue when the V. A. contracts expire. Counseling services for adults in the community have also been greatly expanded under the V. A. campus guidance program and 70 per cent of the colleges and universities planning to continue their Centers essentially as at present will offer this community service.

I am sure that it is unnecessary to suggest to you that you carry this story back to the President of your college or university and let him know that if he is planning to go ahead full steam with a testing and vocational counseling service, he is in the good company of the leading institutions of the country. Remember, only one college or university out of 154 stated that it was planning to discontinue the program because the value of the service had not been adequately demonstrated. With such a clear case, ways and means must be found to provide an adequate program of testing and vocational counseling for all college and university students. Under the stimulation of the V. A. College and University Guidance Centers, amazing progress has been made in the past four years and the future looks good.

STUDENT ACTIVITIES: AN INTEGRAL PART OF A COLLEGE PERSONNEL PROGRAM

A. BLAIR KNAPP

Dean of Students, Temple University

THIS paper is not designed to be a systematic analysis of student activities and their place in the educational process. Like most workers in the field of personnel, I have many more questions than answers. Like all of you, I have developed some convictions about the educational process, the personnel program, and the place of student activities in both. This paper will outline some of these convictions in the hope that they may be suggestive and be a basis for discussion.

In many respects student personnel work "has come of age." All who have been working in the field for fifteen years or more are keenly aware of the progress that has been achieved. A professional philosophy has grown out of the "work-a-day" experience of hundreds of personnel workers. Since 1937 it has been formulated as "the personnel point of view." Today it is accepted almost universally by personnel workers. In fact, educators, who are not formally or consciously personnel workers, are now accepting its principles as the basic philosophy of education as a whole. Our several organized associations of personnel workers have gained status and prestige in the educational world. Their annual programs are increasingly vital, stimulating, and professional. Publication in the field, both in general and on specialized subjects, increases in volume and more significantly in professional quality. We have learned to lean heavily on modern psychology and are progressively developing cooperative relations with the workers in this field. This has already paid rich dividends in improved counseling techniques, constantly revised testing procedures, substantial improvement in methods and procedures for corrective, remedial, and therapeutic work with individuals, and in many other ways with which we are all familiar. Personnel workers

are not only accepted as essential on nearly all campuses, but their status and influence continue to grow. Many more items might be added to demonstrate our substantial progress. It is my conviction, however, that nearly all of this progress and growth both in understanding and in practice relate primarily to the diagnosis, counseling, and therapy of the individual student. They have *not* been matched by similar progress in our understanding of, and work with, student groups or so-called student activities.

There may be exceptions, but in general our student activity programs, like Topsy, "just grewed." Activities are largely unplanned and uncoordinated with each other. They are not integrated with the educational process of the university as a whole. Their educational orientation and purpose has too frequently been lost entirely. Generally we cling to traditional patterns of organization and procedure despite the fact that the whole process of education has been radically altered.

A year ago the President of this association delivered a challenging address in which he discussed some of our professional short-comings. His list was an excellent one. From my own point of view, our failure to thoroughly understand the student life on our campuses, and to guide it effectively toward educational objectives, is our most serious short-coming.

This paper is being written for presentation to fellow personnel workers. Presumably, therefore, I can assume that we would be in agreement on the following propositions:

1. A well-planned program of student activities is an essential element in the educational process.
2. This activities program must be integrated with the life of the entire university and college and must be specifically directed toward educational objectives.
3. The responsibility for leadership in planning such a program rests squarely on the shoulders of the student personnel organization on most campuses.

At least since the formulation of the general statement of the personnel point of view in 1937, we who work in this field have been pretty well agreed that education is a process of growth; that this growth must be of the whole individual as a unique personality; and that the ultimate aim of the educational proc-

ess is the development of the maximum effectiveness of the individual within himself and with his fellows. We may differ in methods and techniques, in schemes of organization, and in our notion of emphasis; but we are one in philosophy and perspective. Recent events in education and in the world in general have tended to emphasize more and more the responsibility which educators have, to develop social effectiveness in their students. We now know that our civilization has a technical competence greater than any ever possessed by man and accompanies it with an incompetence in human relations which carries the seeds of disaster for all of us. There is a new sense of urgency, which we all feel in varying degrees, that we need to revolutionize some of our educational practices. We are beginning to understand that the whole educational process must be re-examined and re-evaluated in the light of the new imperatives of our time. Revolutionary changes in curricular content, teaching methods, and some of our own personnel practices will result from such an analysis. This will be especially true of the whole complicated pattern of student life which is known as the activities program. It will have to be continuously planned and developed as new demands are made upon it.

I think we must assume that the personnel organizations will be expected to provide the leadership in this process. Our campuses differ widely in the extent to which the personnel organization as such is administratively responsible for the activities program. Despite these differences, I am convinced that personnel workers will have to take the initiative. We had to pioneer in the development of the personnel philosophy and its implementation in terms of the emphasis on the individual and his needs. I do not see how we can escape the role of pioneer again in the implementation of the personnel point of view in terms of student life and its orientation to educational objectives.

Assuming, then, that you and I are agreed that a new kind of planning is required, let me suggest certain ideas that seem to me to be fundamental to the process. In the first place, we need to have some notion of the frame of reference within which our planning will take place. Some of the elements are suggested below. Each of you will be able to add to the list.

The university and the college is a different place in 1949 than it was in 1900. In all probability it will change more rapidly in the next ten years than in the last forty-nine. Any consideration of student activities must, therefore, be in reference not only to the circumstances and requirements of today, but also of the next few tomorrows insofar as we can foresee them. That is why I emphasize the phrase "continuous planning." A program carefully developed for the needs of 1950 will probably be inadequate before 1955. An essential element in our frame of reference, then, must be a keen sense of the accelerating rate of change on the campus as well as in the world generally.

One obvious change in the past fifty years is in the matter of numbers. There were roughly 200,000 college students in 1900; 600,000 in 1920; 1,500,000 in 1940; and 2,400,000 in 1948. You may take your choice with regard to predictions for future enrollments, but most of us would agree, I think, that, barring war, the college population will never again approach a pre-war normal. Disregarding annual fluctuations, relatively unimportant, there are social forces at work which require us to assume continued increases in student population. Our activity programs have probably never met the needs of all of our students. If we are to plan adequately we shall be forced to think in terms of numbers substantially greater than we have heretofore served successfully.

A parallel and related development to the increase in numbers has been the change in the motivation of students attending college. It seems pretty clear that for most students the vocational objective is primary. Students in Liberal Arts Colleges are no exceptions. They are pre-this or pre-that or are preparing to be professional biologists, psychologists, etc. Despite the fact that educators think, or at least speak, increasingly of the social objectives of the educational process, our students are thinking more than ever before of the educational experience in terms of preparation to make a living. If the interest of a majority of students is to be aroused, the activities program must be planned so that it ties in with this vocational motivation at some point. Otherwise, a new and more effective orientation to the educational process and its objectives must be

developed so that the motivation of students is broadened to include the social on the same level of intensity as the vocational. We cannot ignore student motivation whether we are planning a curriculum or a student activities program. We must either build on existing motivation or broaden its base.

A third element in our frame of reference basic to any planning of an activity program is a sensitivity to the new and growing heterogeneity of our student bodies. This extends to social, religious, nationalistic, and economic groups. Developing plans for foreign student exchange, for the admission of student displaced persons, for wider and deeper college enrollments from the secondary schools mean increased heterogeneity and a new heterodoxy of ideas in every direction. An activities program which fails to take this into account will fail to meet the needs of large numbers of students.

A fourth development which must be kept in mind is that modern life is becoming increasingly institutionalized and impersonal. The conflicts of today are not personal conflicts, but competitions between highly organized groups. The individual finds himself increasingly helpless alone and seeks psychological as well as physiological security in joint action with others. This produces a more "structured" type of living and a greater dependence upon a leader or leaders who in turn become symbols of unity and conflict. Personalities are becoming segmented in the process so that, increasingly, conflicts arise between different aspects of one's own personality and interests. On our larger campuses this process of institutionalization is increasingly apparent. It must be taken into account in our planning. This problem warrants a full discussion on its own. Suffice it to say here that we must be careful that our student life does not become so institutionalized that we lose the "whole personality" which we have stressed in our personnel work. On the other hand, if there is too little of it on our campuses, we may be denying our students a chance to learn to live with and in the new patterns while in college, and thus send them out inadequately prepared to cope with community life.

Lastly, it strikes me as important to keep in mind that the conflict between "town and gown" is either disappearing or taking on entirely new aspects. Our students do not feel aloof

from the larger community. The university or college is part of the community and is considered to be so by its own constituencies as well as by citizens generally. This should have important implications for an activities program. For one thing, it certainly means that the university need not develop its entire activities program within the confines of the institution. The activities of the whole community are available as never before as educational experiences of significance. The skill with which such community activities are interwoven with those of the university will have much to do with the success of the program as a whole.

These items are suggested as some elements in the frame of reference which should be noted before planning is undertaken, and should be kept in mind constantly as planning proceeds. Two things will now be suggested as preliminary steps to be taken before an activities program can be shaped successfully on any planning board. They can be done at the same time, but are distinct tasks. The first is a comprehensive self-survey of student life and of the whole educational process on each campus. The second is the analysis of educational goals to be served by the activities program in terms of specifics instead of generalities. Each is a major undertaking.

We can do no more than outline in this paper the scope of such a self-survey. The notion of such a survey assumes that the university or the college is a community. Its purpose is to inventory, analyze, and evaluate community resources and needs. It must be both quantitative and qualitative. It will require the combined efforts of large numbers of students and faculty as well as skillful leadership and direction. It should certainly involve the social scientists on the faculty, especially the social psychologists and the sociologists. We have derived much benefit from our cooperation with workers in the field of personal and clinical psychology. Personnel workers and social scientists have been equally remiss in not developing similar cooperation with respect to the group life of our students. We regard training in psychology as a standard base on which to create a career in personnel. In my judgment, our personnel programs will be in better balance when we regard training in the social sciences as equally significant and only when our

personnel staffs are liberally sprinkled with persons so trained. We are so impressed with the lag of the social sciences as compared with the so-called natural sciences that we tend to overlook the substantial progress of the last twenty-five years. Greatly influenced by modern psychological research, social scientists are developing techniques and skills which are producing results. If we can focus these skills and techniques on the complicated phenomena known as student life, we shall be rewarded through a new understanding and a new certainty in method and administration. A survey such as is proposed here would be an excellent opportunity to begin to get this help and cooperation.

Among the many specific items which such a survey should include, the following might be cited as typical and suggestive of others:

1. A scientific study of the student population to give a more precise understanding of the growing heterogeneous character of our student bodies should be one item. In one large urban university an isolated study, very limited in scope, disclosed that 28 per cent of the entire student body came from homes in which both parents were foreign born, while 18 per cent more had one parent born abroad. Just short of 50 per cent of this student population came from homes in which the patterns of American living and thinking might be expected to deviate significantly. What an impact this one "vital" statistic should have on the planning in that institution! What else might we learn about our students that would be equally significant. Too many of us grew up and were trained when and where student bodies were essentially homogeneous. Our new situation is developing so rapidly that we are only vaguely aware of it, and its implications.
2. A systematic analysis of the existing student organizations and activities would be another product of this survey. Such an analysis would include many sub-items. When was the activity organized? For what purpose? Have its purposes changed? If so, have these been reflected in the organization? If not, are the purposes still valid educationally? How are members selected? Is the criterion of selection

personal choice, social, religious, or political interest, scholarship, etc.? How are officers selected? How many members attend meetings regularly? What is the relationship between adviser and group? What are the duplications in membership between groups? Each of us can add the other items which are essential to a complete analysis of an activity or an organization. Such a study would be climaxed by an evaluation of each activity in terms of the educational objective. What has the activity contributed to the membership in terms of specific items of growth? How effective have the members been in contributing to the group objectives? Specific criteria of evaluation should be developed so that the analysis might have tangible value. General criteria such as "Does the activity promote the art of living together and does it develop sound ethical and cultural standards in social relationships?" are valid and useful notions, but criteria of this type do not lend themselves to reliable reporting in an evaluation study.

3. The survey should disclose the number and kinds of students who do not participate at all in organized student life. It should provide for a careful analysis of reasons for their non-participation with special emphasis on the problem of motivation and the quality of their understanding of the nature and objectives of the educational process.
4. A systematic analysis of the felt-needs of students should emerge from the survey. This should be correlated with the needs that are identified by advisers and faculty generally. Too many times we fail to utilize the wealth of ideas which would be available to us if we would assist our students to be more articulate about their own thinking. We still tend to try to do things to students and not with them.
5. The survey should reveal the advisership resources of the university staff. No activity program can operate successfully unless the services of a substantial portion of the faculty are to be available. These services must be given willingly and must be characterized by insight and understanding of the activity program as a whole. This vital

community resource must be uncovered. If it does not exist in sufficient quantity and quality, the cooperation of the administrators who select new faculty personnel will need to be solicited.

These are only a few of the specific items with which such a survey should deal. What I propose is a thorough-going analysis and evaluation which will give a complete picture of resources and needs, strong points and weak points. I dare to predict that a survey of this scope on any of our campuses would reveal surprising data. I am positive that without this kind of survey as a foundation, we shall continue to temporize, to rely on trial and error, and, in the last analysis fail to reach our objectives of an adequately planned and integrated activity program.

Accompanying this self-survey must be a careful formulation of educational objectives in terms of specifics. We cannot evaluate the effectiveness of what we have, nor plan to develop what we need, until we know exactly what our objectives are. I think I can make my point most quickly by one example. The phrase "education for citizenship" has been used in educational literature over and over again, especially in the last thirty years. Every institution in the country claims it is an objective. What, precisely, does it mean? There are so many different versions of this concept that, like the word "democracy," it has no literal and generally accepted meaning today.

I think you will agree with me that despite all of our talk about it, we have accomplished precious little in training our students to be responsible and effective citizens in our society. I am positive that we never shall, until we are able to translate vague generalities into specifics. When I say specifics, I mean specifics of a very simple type. It is not enough, for example, to translate responsible citizenship in terms of "insight, good will, and participation." These are other generalities that in turn need re-definition. We must think it through to the point that "education for citizenship" is broken down into categories of attitudes and behaviors which are deemed to be desired and which are observationally tangible. Then all who teach, or advise, or administer, can know for what portion of such specific categories they are responsible. No doubt such a program will require basic changes in curriculum and teaching methods as

well as counseling and the student activities program. My point is that we have been content with generalities for our objectives. They must be thought through and translated into more behavioristic categories so that we shall be able to measure our effectiveness and to identify the phases in our program which are not producing results. I do not generally recommend that army procedures be followed, but the idea of "mission" or "duty orders" is a good one for us to consider. The Commander-in-Chief gets his orders in terms of the mission in general. His orders are to destroy the enemy war machine. This is translated into thousands of orders going to Armies, Corps, Divisions, Regiments, and Battalions, and sometimes even to lower echelons. In each step down in the hierarchy the orders become more detailed and more specific. So with our goals. In planning we start with the general objectives which should be translated into specifics until the Adviser of a Debate Club or the lowest ranking teacher of freshman English understands his or her immediate responsibilities.

If we can get this kind of translation of goals and combine it with a comprehensive survey of resources and needs, then we shall be ready to plan a coordinated activities program which can be educational in character and integrated at every point to the entire life of the campus.

There are some problems related to student activities which will present special difficulties in attempting to plan a program. These problems exist on all campuses, although they will vary in detail from place to place. If our plan is to be complete, we will be required to find the answers to all of them.

One of these is a problem which we have considered many times. It was the subject of the opening session of this meeting. How are we to secure faculty cooperation in the personnel program? In view of this discussion, there is no need for extended comment on it. Let me say simply that important as it is with respect to the counselling program, it is imperative for the success of the activities program that an answer be found. The need is even greater than for mere cooperation. When you speak of "cooperation" it implies that one group (personnel workers) are to be assisted in their task by another group (the faculty). The fact is that we are, or should be, one group. We

should all be teachers. We should all be personnel workers. The problem, then, is not to develop cooperation, but to see to it that the personnel point of view permeates the entire staff of our institutions. We need to involve the faculty in the personnel program, not to get them to cooperate with it. The educational process is all of one-piece. We shall never reach our objectives, in my judgment, until we lose entirely the distinction between the curriculum and the rest of the institutional life, and also think of students, faculty, and administration as fellow members of the university community.

Allied with this problem is the matter of the training of advisers. Assuming that we are successful in involving more and more of our faculty in the personnel program, those who serve as advisers to student groups and activities will need to develop special competence. The teaching which must take place in a student activity is of a different kind than that which is characteristic of teaching subject matter. Our advisers must be aided in developing these techniques. Specialists in group work will certainly need to be related to our personnel organizations for that purpose. Our planning must take this into account.

There is one more problem related to the adviser to which no answer has yet been found. What should be the relationship between adviser and the student group? Our practice varies widely. An athletic coach and his team has one type of relationship, advisers to departmental clubs another, and advisers to student governments still another. Probably there cannot be uniformity, but the relationships for each classification of activities need to be thought through better than we have been able to do up to now. We have been too content to accept the relationships which have evolved by accident.

The planning process needs to concern itself with the problem of "leadership training," as it is usually called. Most campuses have experimented in this direction, many with good results. Motivated by the necessity to give newly elected student leaders some assistance in preparing for their new responsibilities, we have sponsored "leadership training weeks" or other set periods when the knowledge and skills required have been discussed. I wonder if there are not some fallacies in our thinking thus about this problem. Would we not be planning more surely

if we stopped the notion of "leadership training," as such, and thought of it as "continuing orientation to new responsibilities." This is more than a quibble on words or titles. Continuing orientation to new responsibilities implies that the training of leaders is a continuous process, not a matter for a special week or other period. It implies also that it should be a development and an extension of the freshman orientation programs continued throughout four years. Why should we limit this kind of training to a few who are selected for student offices? If generally included as a continuing process in an orientation program, many students would be helped to develop leadership potentialities who now never get their heads above the crowd. Continuing orientation to new responsibilities also has the merit of including participants as well as officers in the training program. In confining our assistance to officers only, we shirk an educational responsibility to most of our students. The world and the campus need better leadership, but both need, perhaps even more desperately, intelligent and effective participation.

Continuing evaluation of the program as a whole, and of each activity composing it, should be included in our plan. The self-survey would represent an initial evaluation, but anything less than an annual evaluation is insufficient to keep us on our course. Various techniques can be developed for this purpose and the evaluation procedures can make important contributions to the orientation process just discussed. All of us know that continuing evaluation is important. Few of us do it systematically and annually.

The problem of participation will present real difficulties as we plan. On most campuses too few do too much, and too many do nothing, in the activities program. Nearly all of us have rejected the notion that participation in activities should be a requirement for graduation. I have always agreed with this view. Yet, I know that we are graduating hundreds of students every year who desperately needed the educational experience of participation. Either we must look again at our attitude toward requiring participation, or our orientation programs must do a better job of motivating students so that they are eager to participate. Our own experience indicates that with

better planning with an eye toward increased participation, some progress can be made. We took a look at our program in dramatics. It was a fine program in that the productions were extremely well done. Critics praised them as having a professional touch. But the number of students involved was small. They were the ones who already had superior talent. We then discovered that there were scores of others who were interested but did not participate because their talents were not up to the standard required. From our Counselors we knew that there were other scores who needed the experience in whom the interest might be developed. Without going into detail, we embarked on a new program. Without giving up the original program, we are now attempting to provide opportunities in drama for all who are interested at every level of ability. Some day we hope we shall be able to do this with all activities. In our planning, the problem of participation must be met. If the experience in activities is an essential element in the growth of the individual in college, it will be difficult to justify a program which provides such opportunity only for a few.

The problem of continuity of personnel is another problem to be met. Our students are with us for four years at the most. If the Junior College Movement is expanded, as we may well expect, we shall have many for only two years. Our plans must be made in the light of the fact that the program for each student is a short one. If we are able to develop a sound program of continuous orientation, some of the serious aspects of this rapid turn-over in personnel will be solved. Each new group moving in to the activity for the first time will be prepared for effective participation. As it is now, too many of our students just begin to reach that stage upon graduation.

So-called student government involves special problems which, I am convinced, are being met on few of our campuses. There are good reasons for this. The art of government, especially self-government, is one of the most difficult. Our daily newspaper proves this beyond need of further proof. My own conviction is that one reason for our failure to do better with it on our campuses is to be found in the unrealistic philosophy which we have permitted, and even encouraged to be developed,

concerning it. The very phrase "Student Government" is a misnomer and makes inevitable much of the confusion and frustration which develops. This term implies that students are self-governing, or can be, in some well-defined and significant area of university affairs. This simply is not so. From the legal point of view, most colleges and universities have charters which place responsibility for government on trustees, president, other administrators, and faculty. There is a limit to which this authority can be delegated to others. Therefore, if you insist, as many who are interested in this problem do, that the authority of students to govern themselves in well-defined areas *shall be complete*, you inevitably doom student governmental activities to the superficial and the inconsequential. There are few faculties or administrators who could, if they would, delegate complete authority to students in matters of serious consequence. In fact, I will go so far as to say that they should not if they could. We bemoan the fact that there is a dichotomy between students and faculty which seriously interferes with the learning process. Why should we then espouse a philosophy of government which declares to students, faculty, and administration separately, "this area is your exclusive prerogative." If the university is a community of all three, and if its success depends upon the development of unity and integration between all three elements, then let us stop talking about student government, and develop a philosophy of community government in which students can participate as full partners. The logic of this thinking seems to me unsailable. If it be sound, it will have important repercussions on our traditional student government organizations. They are unsuited to this community concept in most instances. I yield to no-one in the matter of strength of conviction that students should participate in all significant aspects of university government. If we can have the wisdom, the courage, and the skill to persuade all three elements of our community to unshackle themselves from traditional forms and an unrealistic philosophy in the matter of university government, we will have made a great move forward.

Lastly, just a brief word about a problem which is bound to become more acute as the armed truce in which we find our-

selves engaged alternates between colder and warmer temperatures. If we are to train students to live effectively in their world of today and tomorrow, they cannot be insulated from a discussion of controversial political, economic and social matters. Surely this point needs no elaboration. On the other hand, this nation is engaged in a conflict which in many respects is the most desperate, difficult, and decisive of its entire history. We are dealing with an adversary who accepts the principle that his possible success in destroying our way of life justifies any method without scruple. We are dealing with persons who insist upon using our personal rights in order that they may gain power to destroy the rights themselves. We are dealing with a type of attack which emphasizes the importance of gaining influence primarily in the ranks of labor, in our schools, and on our campuses. When we plan our program, may we have the wisdom and the courage to be true to our democratic principles, to be consistent with our educational objectives, and at the same time to safeguard our campuses from being used as sounding boards for undemocratic philosophies which deny the validity of our most basic concept, the integrity and innate value of human personality.

I have suggested to you that we undertake a big job. I do not minimize the difficulties, but I agree with one of the speakers at last year's meeting that it is time we stopped being satisfied with the minimum essentials in a personnel program. Our practices in the field of student activities fail to measure up to our knowledge of what should be done. Our knowledge of what should be done, and how, is but an insignificant portion of the understanding we can develop. Each of us has a responsibility to do as much as we can and then to share with others the results of our labors. If we attack these problems as a profession and can develop better facilities for communicating results to each other, the program for which I plead in this paper can become a reality.

MARRIAGE COUNSELING OF COLLEGE STUDENTS

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THE major responsibility of education is the preparation of the individual for effective living. However broad this definition may be, in a simple operational sense no one can live effectively unless he can make friends, get along with people, and be self-supporting. His social adaptation and vocational adjustment are usually related if he is to derive satisfaction from earning a living. Since about 90 per cent of all adults do marry, the achievement of a harmonious family life becomes another measure of effective living.

Successful social, vocational, and marital adjustments, intercorrelated as they are, underly and accompany emotional stability and personal happiness. Their realization integrates the individual and makes him a valued member of his community. Failure to achieve any one of these goals may be partially compensated for by success in the remaining two, but failure in two goals almost certainly means unhappiness and maladjustment. When neither of the three objectives is achieved, only misery, sometimes insanity, and even suicide can follow. One index of marital maladjustment is the fact that nearly one marriage in every three ends in divorce.

Colleges and universities have long recognized the importance of guidance. In many ways they have helped students achieve academic acceptability and have provided opportunities for more effective social participation. Substantial progress, of an unusually high order at some institutions, can be noted in vocational guidance but little marital counseling is in evidence. Many colleges, it would seem, take the position that a short series of lectures will be sufficient to prepare the student for marriage. Even these lectures, oftentimes elective and carrying no credit, may be more concerned with the structure of primitive or contemporary family life than with *individual* prepara-

tion for marriage. Such an approach to gaining insight into mathematics or to acquiring an appreciation of literature would be considered ridiculous by most college administrators.

Much more is involved than just introducing "a course in marriage"—there must be a fundamental change in educational philosophy if a really comprehensive and worthwhile program is to be undertaken. A sound philosophy must recognize: (1) that many children receive little training (either at home or in public school) in marriage and family living, and that colleges must supplement this training; (2) that courses, whatever the number of semester hours (certainly not less than required in compulsory composition and literature courses), must be practical and realistic and directed toward preparing the individual for marriage; (3) that opportunities for meeting the other sex must be provided along with wholesome activities in which couples can participate; (4) that competent counseling shall be available to any student having problems in sexual or premarital adjustment; (5) that counseling shall be available for dating or engaged students or couples who wonder if they are ready for marriage or have problems relating to their approaching marriage; (6) that when a student or alumnus marries and has trouble in holding his marriage together, he should be able to turn to his alma mater for help. Finally, more colleges and universities should encourage research in marriage and some must accept the responsibility for training marriage counselors and preparing teachers who will be qualified to teach marriage courses.

The School of Education at The Pennsylvania State College began, over a decade ago, to develop a more comprehensive program of student guidance. Through its Psychological Clinic, a laboratory for graduate students looking toward the professions of school psychologist and clinical psychologist, personal, educational, and vocational guidance were available to all students. During Freshmen Week new students had administered to them an extensive battery of tests covering intelligence, scholastic achievement, vocational interests, and certain aspects of personality. Faculty advisors received profiles of test results and generally referred to the Clinic any students needing individual guidance. It became increasingly evident that many

students had problems relating to heterosexual and premarital adjustment.

The Departments of Home Economics and Sociology were offering general marriage courses but none was specifically available for students preparing to be teachers or psychologists. Almost simultaneously the Departments of Psychology and Sociology inaugurated separate new courses in marriage, each concerned with individual preparation for marriage. The course in the Department of Sociology, open only to seniors, was offered one evening a week and carried one semester hour of credit. Its lecture staff included sociologists, psychologists, physicians, and home economists. In the Department of Psychology, the description of its new course read: "Psychology of the development of heterosexual adjustment and the mechanisms of sexual adjustment in adolescence, adulthood, and marriage; psychological techniques available in selecting a mate and for evaluation of factors important to successful marriage and parent-child relationships." This elective course, open to both juniors and seniors (later to any students having three to six credits in Psychology and Sociology), was offered for three credits and is now required of all students majoring in Clinical Psychology. Coeducational, the males outnumber females by four to one, reflecting the general college sex ratio.

It is not easy to appraise the effectiveness of courses in marriage but there is some objective evidence that men students, and women students majoring in Home Economics, have fewer divorces and make more successful marriages than students who do not take such courses.

Because of student demand, especially from majors in Education, Psychology, and Sociology, a second three-credit course, open only to upper classes and graduate students, was undertaken at the beginning of the war. This course is described as "principles of guidance in sexual and marital adjustments, analysis and measurement of traits basic to these adjustments, marriage-happiness prediction techniques, and principles and materials of sex education for teachers in secondary schools." Today this course might be considered as an introduction to marriage counseling.

Our graduate course, Clinical Techniques in Marital Coun-

seling, is open only to mature graduate students who are working for a doctorate in Clinical Psychology. It is a practicum course in which each student is regularly assigned problem cases under the supervision of senior staff counselors, but before he is permitted to handle premarital and marital problems he must have demonstrated in other clinical courses ability to deal successfully with personal and vocational guidance.

The clients coming to the Marriage Counseling Service can be divided into five main types:

1. Students with a personal maladjustment such as an inability to get dates, or to achieve satisfactory sexual adjustment.
2. Couples contemplating engagement or marriage who have questions about their compatibility.
3. Engaged couples with special problems such as mixed religions or parental disapproval.
4. Couples living on the campus who are having difficulty in making their marriage work.
5. Alumni or faculty members whose marriages are in trouble.

In the preliminary interview the client usually states why he has come to the Clinic. The nature of the problem and its degree of seriousness largely determine what clinician will be assigned to the case. If tests are indicated at the time, as when a couple are uncertain about their compatibility, appointments for their administration are made. The general battery consists of the *Terman Prediction Scale of Happiness*, the *Adams-Lepley Personal Audit*, and the *Guilford-Martin Personnel Inventory*. A married client ordinarily completes the *Adams Marriage Adjustment Index* which is a fair indicator of the level of the individual's marital adjustment or satisfaction. The Minnesota Multiphasic, the Rorschach, or other tests may also be administered. Such objective measures and further interviews may lead to a diagnosis of the problem and help determine the therapy to be employed.

The less experienced the counselor, or the more complex the problem, the greater the likelihood that a non-directive approach will be followed, since this technique offers the least possibility of damage to the client. As Snyder has pointed out,

a case history is not essential in non-directive therapy since "the counselor does not give advice or offer solutions to the problems raised by his client"; instead, the best technique would be "to clarify the feelings of the client" and, at times, "to structure the situation indicating the responsibility of the client in the counseling process, and that of the counselor." Tests or bibliotherapy would not be employed except at the client's request. Whatever the counseling approach, it is standard practice that the same counselor not work with both male and female, or with both husband and wife.

In the less non-directive approach, the counselor adheres to some form of the scientific method of investigation. Through tests and interviews, a case history is developed. These accumulated data, with the client taking the more active rôle, are classified and evaluated. As the client defines his problem, his feelings and attitudes are revealed. On the basis of the relevant and significant facts and feelings, some tentative diagnosis (labels are not used) emerges, out of which may come a plan of attack that the client accepts and wants to try. Progress reports may lead to modifications of the plan, or to the development of a new plan. This process continues, and is repeated, until the client has solved his problem or established tension-reducing devices that enable him to live with it.

Most counselors feel that no therapy should be attempted until fairly complete information has been given and received and some attempt made at diagnosis. The case history may enable a separation between the predisposing and precipitating factors underlying the problem. Certain questions must be raised if a workable solution is to be achieved. What motives does the client have and to what degree are they being satisfied? What needs exist and what can be done to fulfill them? What are the client's assets and resources? What are his limitations and liabilities? The answers to these questions, whatever counseling approach is followed, may require many interviews before an accurate diagnosis results and a plan of therapy is evolved.

All of us would agree that the counselor's initial rôle is to listen. Listening may, in itself, result in bringing the client's feelings and attitudes into the open, may reduce tension, may lead to a definition of the problem, and may help the client gain

insight into what he can do to solve the problem. The counselor will assuredly give the client relevant information, will help him evaluate data bearing upon his attitudes and present and future behavior, and will collaborate with the client in interpreting the facts.

At the outset, the counselor—and later the client—must realize that some personal and marital problems cannot be solved or “cured.” Through ventilation, emotional support, desensitization, and the development of balancing factors, a counselor may help a client face reality and tolerate even an unsolvable problem!

The counselor must be neutral and objective. No good counselor can be moralistic or make value judgments. That is why it is often difficult for a teacher or a dean of students to be an effective counselor—he must uphold and maintain the institution's rules and regulations and, at the same time, not fix blame upon the student who violates them. Conflict is inevitable—for both the counselor and his client. The dean may be forced to concentrate upon the violation to prevent its recurrence; when that is the case, the violation becomes the problem rather than a symptom of the problem, and the client suffers. A symptom should be viewed as a protective mechanism, or a device the client utilizes in his efforts at adjustment. Drinking, premarital promiscuity, adultery, and many other behaviors are symptoms. To take away a symptom, whether by authoritative command or hypnotic suggestion, without replacing it with something equally adjustive or tension-reducing, is to render a disservice to the client.

If the symptom produces pain, it may need relief whatever the technique, whether catharsis or hypnosis. Just as a physician anesthetizes before undertaking repairs, the counselor may have to relieve his client's feelings of guilt or shame or sin before a program of re-education or reconditioning can begin. The moralistic counselor cannot do this because he is too conscious of social approval and disapproval. Without realizing what he is doing, he may force a client to look at a painful fact long before he is able to do so. This may lead to deeper feelings of unworthiness and shame and lessen the client's self-esteem and sense of integrity. Until the client can understand the *why* of

this fact or of this adjustive mechanism and can be helped to rationalize or justify it, he should not be forced to face it.

On many college campuses today the majority of students may be veterans. Many of them are married. Their problems are legion, oftentimes aggravated by maladjustment during military service, present limited incomes and financial burdens, and the heavy load of maintaining family life and pursuing an education. Disturbing as many of these problems are, they become upsetting and distressing when the couple have neither satisfying companionship nor sexual compatibility. They need counseling if their marriage is to succeed. Sometimes palliative or supportive therapy will see them through; sometimes their problems are so severe that the best adjustment therapy may fail.

At Penn State, our results have been encouraging but not spectacular. Our follow-up of counseled couples seems to indicate that about one marriage in five becomes quite successful, another two are perhaps of average quality, a fourth is tolerable if not successful, and a fifth terminates in separation or divorce. Remembering that some of these problem marriages did not consult us until *in extremis*, the record suggests that counseling can be worthwhile.

The number of psychologists and psychiatrists in this country, if they were all qualified to do marriage counseling, is too small to do the job. The American Association of Marriage Counselors, a professional organization of trained counselors, has less than one hundred members, and they come from several different disciplines, including medicine, psychology, sociology, psychiatry, and social work. It will be many years before the number of competent counselors will be great enough to supply the needs of colleges and universities. When those needs are met, barely 10 per cent of our population can be served. And we are faced by the fact that some school and college administrators shy away from anything remotely resembling sex education, preparation for marriage, or marriage counseling. We must first look toward preventive rather than remedial measures.

This year in the State College High School, several specialists organized and presented to the seniors a series of lectures in

sex education and preparation for marriage. There is nothing unique or unusual about the content or methodology of the course. It does differ in two ways from many similar courses: first, each week the parents of the seniors hear the lectures that will be presented to their sons and daughters the following week; second, plans are under way for training the regular teachers so they can offer the course without outside help. We hope this procedure will build a deeper and more understanding relationship between the parent and child, the teacher and the child, and the parent and the teacher. And, with the help of our State Department of Health, the College hopes to offer teachers training in this field beginning with the summer of 1950. If our program can develop, it will not be long before many high schools in Pennsylvania will have at least one teacher qualified to present material in this area and to do some counseling.

If schools and colleges could be persuaded to give realistic courses in preparation for marriage, and to supplement them with effective premarital and marital counseling, another generation might not have 40 per cent of its marriages destined for separation or divorce.

INTEGRATING PLACEMENT WITH THE STUDENT PERSONNEL PROGRAM

NORMAN A. JOHNSON

Director, Student Affairs for Men, Drake University

I HAVE had some mixed feelings about my participation in the topic under consideration at this session. Placement and follow-up activities are a phase or an area of student personnel services in which I have had a definite interest, and I certainly regard it an honor to share in the presentation of this topic with Dr. Endicott. However, I do not wish to pose as an expert or lead you to believe that I have had long years of experience in the placement field. My comments, or what contributions I might make, will be based largely on my observations and experiences as a counselor in various guidance and personnel programs, and on our recent experiences at my own institution in setting up a placement program designed to be integrated with the student personnel program of the University.

I think we would all agree that the topic is a timely one and that we are all confronted with a very real challenge in achieving an effective placement and follow-up program. Many collegiate institutions throughout the land have pointed with pride, and perhaps rightly so, to their increased enrollments following the cessation of hostilities and the many problems they have had to resolve in providing adequate instructional programs and facilities. There is some doubt, however, as to the number of colleges and universities who can point with pride to the adequacy of their student personnel programs, and more specifically to the adequacy or effectiveness of their placement service and to its integration in their student personnel program. The need for the latter is becoming increasingly more important as the labor market eases and the inexperienced college and university graduates will encounter more and more difficulties in locating suitable job openings.

Placement and follow-up services, from an historical point of view, have long been identified with, or considered an integral part of, a vocational guidance program, and have been repeatedly listed in recent years as one of the basic or essential student personnel services on the college level. It should not be necessary to stress the fact that it is an integral part of a student personnel program since effective placement has come to be recognized as the culmination of many efforts to assist students in the preparation for a satisfying and constructive post-college life. The real problem, or I should say the lack of it, is that which is so well expressed in our topic heading: "Integrating Placement with the Student Personnel Program." There appears to be considerable agreement among authorities in the student personnel field that placement or employment services are not, in practice, an integral part of the personnel program—that counselors and other personnel workers contribute very little to placement work and that their information about students is not used by placement personnel.

Before reviewing some of the areas and/or techniques by which placement may be better integrated in a student personnel program, I should like to comment on two factors which I believe are basic or are prerequisite to all other considerations.

1. It seems to me that the first step in achieving the desired integration relates to the manner in which the placement services are organized. I do not feel that the unfortunate lack of coordination or integration will be satisfactorily resolved unless the "principle of definiteness of assigned responsibility" applies to placement as well as to any other personnel function. This principle relative to administrative structure is very well presented by a special committee of the American Council on Education in their preliminary draft of "Revision of the Student Personnel Point of View."

We recognize that there are many factors which will determine the specific form of organization of the placement services at any given institution and that it is not possible to blueprint an organizational structure which will meet the needs of all. We know, for example, that in many large universities the various departments, schools, or colleges operate separate place-

ment services for their own specialized students. There are some advantages in this type of decentralized placement service as the faculty in the respective colleges and/or departments know their students well and often have a personal acquaintance with employers who rely and depend upon their judgement. There are certain other advantages in this decentralized plan in that the faculty of the specialized schools have an opportunity to keep in close contact with employers and with developments in their respective fields. They find it possible, through frequent meetings with employers, to keep informed of needs in the field and thereby effect desired changes in the curriculum.

We know that in other institutions the placement and follow-up services are all centralized in one office and administered by a Director of Placement or a placement officer having a comparable title and duties. The Director of Placement in this organizational category may have, depending on the size of the institution, one or more assistants who will specialize in certain areas of placement and who work very closely with the faculty of the departments or schools related to their functional or specialized areas of placement service. This type of organizational structure has certain advantages in that there is a central source of information on placement opportunities and vocational trends; there is a central file of information on candidates; there is convenience of location for employers seeking candidates for job opportunities; and there are certain economies in this type of operation. It has also been suggested that a centralized placement program could make for a more objective review and screening of all possible candidates for a particular job referral. The idea here is that the "halo" effect can also work in the reverse in a more subjective approach in some decentralized placement plans.

We also know there exists in practice certain combinations of centralized and decentralized forms of placement within the same institution. This may take the form of centralization of files and records in one office, but decentralization in terms of function. For example, a placement counselor or representative from a college of commerce and finance will assist personnel men from the business field; a representative from a college

of engineering will meet with personnel men from industry, etc. We could go on and briefly describe other types of organizational structures such as those placement services which are an integral part of a vocational guidance or Counseling Bureau. However, I believe the foregoing describes the major organizational structures in practice.

If the size of the institution is such that it is deemed necessary or more feasible to operate on a decentralized plan, then one solution in achieving the desired coordination may be through a central placement office operated under the supervision of a Director of Placement or Coordinator of Placement. This Director or coordinating officer could, in addition to providing a central registration service, keep in touch with the activities of the decentralized units, coordinate their efforts, and maintain a close contact with their specific placement problems. I believe we have to be realistic and to recognize that in many institutions some of the colleges or departments will strive to retain their autonomy. Though I would personally favor a centralized placement service operating under a Director of Placement, with the assistance of specialized placement Counselors, yet I am aware of some very real problems in achieving this type of organization in actual practice. However, in the absence of any centralized system or coordinating office, I often think of the plight of the Liberal Arts graduates or, for that matter, the graduates of more specialized departments who may receive little or no assistance from their respective decentralized units and yet who may qualify for several types of job orders which may have been directed to only one department, school, or college within the institution. Problems of this type will become more and more real as the labor market eases.

2. A second major step or prerequisite in achieving integration of placement in a personnel program relates to the qualifications of those engaged in directing, coordinating, or functioning as placement counselors. If helping an individual to secure suitable employment is the culmination of many efforts to assist him in achieving a satisfactory vocational adjustment, then it follows that all pertinent information about the individual should be brought into focus on this problem.

I have in mind here information relative to counseling and testing data, academic achievement, co-curricular experiences, mental hygiene reports, health status, etc. This implies skillful evaluation and keen insight into the dynamics of vocational adjustment. The Director or Coordinator of Placement should certainly possess the minimal academic training recommended in a discussion last year at this convention on the topic: "Professional Standards and Training for College Personnel Workers." As some of you recall, that was a Master's Degree in Psychology, Business Administration or Education, with emphasis on vocational problems, and special training in occupational analysis and information, office management, record systems, etc. It hardly need be stressed that he should also have some experience in business, industry, and/or education. It would also be most desirable if he had faculty rank and participated in committees which related to vocational adjustment services. If the placement personnel do not have the minimal training and work-experience qualifications, and secondly, if they do not have faculty status, there is a real danger that the activities of this office are construed to be largely clerical in nature. If the foregoing conditions are not met, at least with respect to minimal qualifications, it is no small wonder that counselors and other personnel workers contribute very little to placement work and their information about students is not used by the placement officers. In general, if the placement personnel, outside of the necessary clerical staff, have the academic qualifications at least comparable to educational and vocational advisers, I do not think we need to concern ourselves too much about their not finding ways and means of obtaining the coordinating information necessary for effective placement services.

It may appear to some of you that I have concerned myself too much thus far with the organizational aspects of placement service. I do not feel, however, that much will be accomplished in the way of integration or of fitting the placement services into the over-all student personnel program unless there is "definiteness of assigned responsibility" for this service, and secondly, qualified personnel to carry out the job effectively. For the balance of the time allotted to me, I should like to

review with you some of the areas and/or techniques of integration.

1. *Pre-college Counseling and Selection*: This area is one in which many institutions would readily admit there is a glaring weakness in their over-all student personnel program. Most colleges need go no further than to analyze their own student mortality figures and relate them to the frustrations, disappointments, and feelings of defeat which they represent, for the most part, if interpreted in terms of individuals rather than viewed as abstract statistical summaries. We recognize that effective placement is the culmination of many efforts to help the individual achieve a satisfactory vocational adjustment. However, those responsible for placement can, in a very real way, make an important contribution to the beginning of the educational and vocational adjustment process. Would it not be a fair question for the prospective college student to inquire as to where the graduates of a given college, school, or department are getting jobs; what are the requirements and current and future trends as interpreted in the light of the experiences of the institution as contrasted to the very general and sometimes vague information contained in published occupational materials. Though there is yet much to be learned in the science or techniques of occupational forecasting, yet our placement officers have a definite responsibility in making available as much of the above information as is possible to those directly concerned with pre-college counseling and selection.

This business of gaining admission to colleges or universities is too often a one-sided approach. All collegiate institutions generally require the prospective student to give a full account of himself before he is admitted. Is there not an equal obligation for the institution to give a full account of itself to the applicant before he enrolls?¹ I hasten to add that this accountability should not only relate to vocational opportunities but also to the adequacy of instruction and other student personnel services.

2. *Orientation Programs*: The foregoing remarks apply to some

¹ Archibald MacIntosh. *Behind the Academic Curtain*. New York: Harper & Brothers, 1948, p. 146.

extent to the institution's program of orientation for new students. We know that many students will continue to apply for and accept admission without much knowledge of themselves or of the aims and objectives of the college in which they are enrolled. Placement officers could participate in these programs and help students to achieve orientation not only to the placement services available to them but also could assist them in acquiring greater insight as to the vocational opportunities they could reasonably look forward to upon successful completion of their course of training. For example, how many of you have been contacted by students from Liberal Arts Colleges, who, though quite happy in their present course of study, are apprehensive over the vocational opportunities which will be available to them. And yet, there is evidence to indicate that many employers would encourage a student to acquire a broad educational background; that they place a very high premium on his over-all intelligence, on his ability to get along with others, and that they express considerable interest in the nature and extent of the student's out-of-classroom experiences. If this be true, and if each institution could support this point of view through adequate placement and follow-up studies, would it not do much to relieve the apprehension or fears of those who elect a broad program of studies. I feel confident that many Liberal Arts colleges and perhaps other schools and departments have not acknowledged nor realistically met this problem by getting the facts through adequate placement and follow-up studies.

I do not wish to imply by those remarks that a college, school, or department need have to literally guarantee jobs or necessarily "parade" vocational opportunities before them constantly in order to attract or hold students. You cannot, however, ignore their concern and certainly the lack of information as to where their predecessors have found employment, their beginning jobs, the adjustments they have had to make, etc., only intensifies the problem. Moreover, if it is true that employers weigh quite heavily the factor of co-curricular experiences, then it would seem that such information provided by placement officers would be of much value to those concerned with developing various student activity programs. Dissemination

of such information and its implication so far as the individual's ability to get or hold a job should do much to jar the complacency and inertia of many students who would be quite content to march through four years of college with little concern for their personal and social development.

3. *Counseling and Testing Service*: There are many opportunities for integration of placement in this area of student personnel services. Excluding those situations in which the placement office and a vocational guidance bureau are one and the same department, there is first of all a definite need for exchange of information relative to vocational or placement opportunities. One does not function as a Counselor for very long in a counseling and testing program without recognizing the inadequacies of much of the published occupational materials available to him. How he would like to supplement these materials with information more pertinent to his labor-market area; how he would like to bring to the attention of the counsellee more information as to the beginning jobs, the lines of promotion, and the adjustments former graduates or withdrawals had to make in one field or another of endeavor; how he would like to refer many to employers, former graduates and, yes, even to qualified placement personnel for more detailed information so that they might achieve greater insight to the occupation or vocational areas under consideration!

Secondly, it also follows that the placement personnel would want to review and to study the information available from those engaged in the program of diagnosis and counseling so that all factors could be considered at the time of a specific placement referral. I feel reasonably certain that most Directors of counseling and testing programs would cooperate and make available information about students to qualified placement personnel if they were confident that it would not be misused or misinterpreted. I cannot conceive of this lack of cooperation and coordination if you have a student personnel program worthy of its name.

Most of us would agree that an institution has a responsibility in the case of the academic "casualty," and also to students who are forced to withdraw because of financial and personal reasons. When this responsibility is acknowledged and

implemented by a system of terminal interviews, it is quite obvious what needed service could be rendered by placement personnel in helping some of these individuals achieve employment more appropriate to their abilities or needs.

4. *Financial Aids and Part-Time Student Employment:* There are many worthy and needy students making application for financial aids who might have their needs met in whole or in part by an effective part-time student employment service. I am thinking here of something more than the "passive" type of student employment service which merely receives and lists incoming calls or inquiries for temporary or part-time employment. Could this not be more of an aggressive service in which definite efforts would be put forth to seek out as many types of part-time and vacation employment opportunities as is possible.

The value of actual "on-the-job" experience certainly surpasses many psychological tests or other counseling techniques we might employ in assisting the student in the vocational adjustment process. It certainly follows, therefore, that within the limitations of its labor-market area, each College or University should organize the part-time and vacation employment of its students so that it does relate to their educational program and vocational needs and thus have exploratory and training values.² Unfortunately, there is much evidence to indicate that this is not the case and that the objective of most part-time employment services is financial and not educational. It is encouraging to note, however, that many colleges and departments are moving in the direction of developing various types of internship training programs for undergraduates as well as graduate training programs. It would seem that an effective placement service could promote or extend more of these programs in cooperation with the colleges, schools, or departments.

5. *Personnel Records:* Much has been written and said in recent years about the necessity of keeping adequate personnel records and of their use in the improved understanding of, and service to, the individual student as he has contact not only with the classroom, but in all phases of his college or university

² Donald E. Super. *The Dynamics of Vocational Adjustment*. New York: Harper & Brothers, 1942, p. 142.

life. We made reference earlier in this presentation to the value of this information, from the point of view of the culmination of many efforts, in assisting the student in finding appropriate employment after leaving college. The implication of the use of this information is subsequently assisting alumni in further professional development is also quite evident.

I am not interested here in becoming involved in a discussion of the "mechanics" of record keeping or of the advantages or disadvantages of centralized versus decentralized personnel files, etc. I do feel, however, that placement personnel could provide much needed information to those directly responsible for the specific content or nature of cumulative personnel records. Aside from the counseling implications of an adequate system of personnel records, every college is faced with the problem of providing information to prospective employers of students who are, or were formerly, in training at the institution. It is generally not difficult to furnish information relative to scholastic achievement, background of training, and the nature or extent of the student's participation in out-of-class-room activities. The problem becomes more involved, however, in providing information in the area of personal or mental qualities. It is in this latter area specifically that placement personnel could make an effective contribution to the institution's system and nature of personnel records. Memories cannot be relied upon. Students do graduate or withdraw from school. Faculty people do transfer, take leave of absence, retire, and even die occasionally. Even employers are somewhat naive at times, as evidenced by the nature of their personnel inquiries. The latter would often imply or suggest that the faculty have a more sustained and intimate contact with students than is possible in most institutions of any size operating under a decentralized personnel program. The foregoing problems certainly suggest such questions as to what personality traits or attributes can an institution observe and rate with any validity, who should do the rating, and how often, etc.? It is much easier to ask the questions than to answer them. However, if placement personnel are aware of the needs of business and industry and the type of personal information they desire on the one hand, and the limitations of the institution's personnel program on the

other, to that extent could they provide effective counsel and information in helping others resolve these personnel record problems.

6. *Co-Curricular Programs*: It has often been stated that more people fail in the work-a-day world not because of a lack of intelligence, skills, or special knowledge, but rather because of their inability to get along with others. Many institutions are, therefore, becoming increasingly concerned about the personal and social development of their students and are attempting to provide and integrate a well-balanced co-curricular program on their campuses. As was suggested earlier, placement personnel could assist those in charge of these programs in pointing up the importance of social and recreational activities, and even suggesting types of activities that have meaning for employers or certain types of work.

7. *Evaluation Programs*: Another recognized element of a student personnel program is that of a continuous evaluation of student personnel services and of the educational program to insure that students will achieve the objective for which the program is designed. Through their contacts with business, industry, and professional fields, placement personnel can continually "feed" back information to the appropriate schools or departments which may suggest or warrant further study or investigation with reference to possible curriculum changes. This may include information on job orders which could not be filled because the graduates lacked certain training or course combinations deemed important, as well as pointing out fields in which there is a temporary over-supply or evidence of long-time trends in this direction. In a similar manner, placement personnel could "feed" back information to those directly concerned with educational and vocational counseling with respect to adjustment problems experienced by former graduates, employer evaluations, etc.

Summary

If we are to do more than merely acknowledge placement as an essential student personnel service, and if we are to do more than merely give "lip" service to the need for integration,

then I firmly believe that the following prerequisites must be met:

1. That the responsibility for placement services must be definitely assigned.
2. That the individuals charged with the administration or coordination of placement services be responsible to the office having over-all administration and coordination of all student personnel services.
3. That there be qualified personnel to discharge effectively the duties and responsibilities incident to placement and follow-up services.

An attempt has been made in this presentation to indicate the limitations, from the point of view of integration, of a placement program dependent entirely on the efforts of individual instructional departments, schools or colleges within an institution. This was in reference, of course, to those institutions in which there were no central placement or coordinating offices.

If the foregoing prerequisites have been met, then it would seem relatively easy to identify areas of integration as well as to develop specific techniques of integrating placement with the student personnel program. Admittedly, I may have been thinking in terms of perhaps the "ideal" or the optimum program, but should we set our sights any lower?

SOCIAL LIFE IN A CHURCH-RELATED COLLEGE

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WHEN I was first confronted with the topic "The Social Life in a Church-Related College," my first reaction was a questioning one. "Why is the problem of the social life in a church-related college a unique question? In fact why is there any question? Are not all colleges interested in the social life of their students?"

However, further reflection seemed to indicate that possibly the very existence of the church-related college might hinge on the solution to this problem. Does not this very relationship necessitate the highest standards—the utmost effort to provide an environment where emphasis on the wholesome life can be at a maximum? Must we not exert every energy to attain the fundamental purposes of education?

What is the purpose of education? Newman said as early as 1852, "If a practical end must be assigned to a university course then I say it is training good members of society." Or Sir Richard Livingstone of Oxford writes, "The most important task of education is to bring home to the student the greatest of all problems—the problem of living—and to give him guidance in it."

In other words, we must be striving toward the elimination of the type of college graduate who knows chemistry or physics or English but is not interested in the sociological problems in his community, who does not go to the polls on election day, who is too busy to be chairman of the neighborhood committee to secure adequate playgrounds. Our responsibility because of our church affiliations is to develop young men and young women who are thinking members of the community, who are unafraid to tackle community problems and who have high standards and the courage to support them. With all this we must recognize that in our rapidly changing world, education in adaptability and flexibility is equally vital.

It is within the realm of possibility that some of us might consider that we are accomplishing this main objective of education with an outstanding academic program. However, we must recognize that all experiences provided students are of the greatest importance because of the values which spring from such experiences. These values determine the student's reaction to new situations, consequently it is essential that we supplement the academic program of our colleges by a well-rounded, comprehensive social program.

In developing such a comprehensive social program we need consider only two major points: 1. What *specific* goals are we trying to attain? 2. How can we best attain them?

Perhaps the most obvious specific objective would be to provide wholesome entertainment for the members of the student body at a reasonable expense. Second, to develop a social consciousness among the students. Third, to stimulate student leadership. Fourth, to create an interest in art, music and lasting beauty. Fifth, to provide ample opportunity for spiritual growth.

What features of our college community can we utilize to attain these goals? We will find many activities providing accomplishments in more than one of the above goals.

The most vital force in student social life is Student Government. I quote from Ordway Tead, "I plead for the fullest possible functioning of student government. Here is provided active experience in human relations and group self-rule which, under wise guidance, has great character-building value." An active student government can be a most vital force on any campus—an opportunity for much "laboratory experience in living." Each of the specific goals is closely allied to such an active group.

The student government can sponsor many of the social affairs on the campus. Wise guidance from administration and faculty can aid in creating a varied program of dances (where the college permits), square dancing parties, sings, stage shows, carnivals, or parties of varied games. Students with a little ingenuity and assistance from certain college departments can arrange interesting and entertaining parties. Let us not overlook the help that can be secured in the area from our physical education departments.

Further, the student government can sponsor small groups for the study of various campus problems. Such small groups give an opportunity to work to students who may not already hold positions of leadership. These groups can do a great service to the students as well as to the college by carefully considering the specific questions that are their prerogative.

The student government can create in all the students a sense of participating in a responsible government. Another positive benefit of student government is the cultivation of a sentiment for honesty in examinations, and acceptable standards of behavior in dormitories. (Utopia would be an honor system supported by every student, but that can only be approached by a continuous cultivation of the honor sentiment.)

We cannot rely entirely on student government for the attainment of all our goals. We must expect to assist by wise guidance in all phases of student government.

Also, colleges need to be alert to the changing times by bringing thought-provoking speakers to the campus and allowing discussion time following the formal address. There needs to be an opportunity for the *student* to participate in this discussion. (May I wish for your college the exhilarating experience of having a group of students request a further discussion with faculty following the speech of a visiting lecturer?)

Can we not also use our own faculty members for special lectures or discussions outside the classroom? Campus clubs should be encouraged to tap this source of program material.

We must also provide an opportunity for interest in art and music. Informal sessions with recordings can be used to supplement opportunities to hear great artists. Expense should not deter our efforts to meet this need. Ingenuity of students and interested faculty can evoke great possibilities in informal gatherings or special clubs. Let us not forget the recognition of the beauty in the sunset, or the starry sky, or the first snowfall. We must not feel that the only way to create an appreciation of beauty is to see or hear great masterpieces.

And finally, although the very nature of our institution is the church affiliation, we must not overlook the need for individual spiritual growth—for a sense of values and a relationship to something greater than oneself. Our responsibility here

is obvious—but not always easy of fulfillment. Chapel services are not always adequate. There needs to be available an understanding person or persons who have achieved the sense of values and a recognition of the something-greater-than-themselves who can assist our students to reach the same goals.

With the main goal of education in mind and the specific goals of the program before us, it behooves us to scrutinize carefully our existing social programs. At the risk of sounding cynical, may I say that no matter how adequate your social program seems to you I am certain there will be two strong sources of criticism. The students will complain that there is not enough to do, and the faculty will remonstrate that the social program is much too time consuming.

ADMITTING YOUNG PEOPLE TO CHRISTIAN COLLEGES

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President, Lynchburg College, Lynchburg, Virginia

THE colleges we represent and about which we are concerned must, it seems to me, be more than just "church-related." They must be church colleges. They must be an integral part of the church. They must be Christian. It is our responsibility, shared with others, to make these colleges more inspiring, more exciting, more challenging and more Christian than the church of which they are a part. By so doing, and only by so doing, can the church be renewed in vision, in faith, and in work under the enthusiastic and daring leadership of creative young people returning to it from the campus.

To me, the Christian college means a pioneering school with its compelling purpose to inspire and to motivate the learning and living experience of young people toward becoming Christian persons imbued with the challenging prospects of creating a Christian society of justice, righteousness and peace on earth. In other words, the Christian college is not interested or concerned, not in the least, with perpetuating the status-quo church, the status-quo state, or the status-quo anything else that is not fully Christian in character. The term "church-related college" connotes nothing particularly creative or challenging to me. On the other hand, the designation of Christian college stirs the imagination to thrilling proportions with visions of great and continuing adventure under expanding horizons. We need to feel a distinct sense of pride and worth in being known as, and in being, Christian colleges. We need not be afraid of the designation provided we are willing seriously and sincerely to make the attempt to become effective Christian persons ourselves and are willing to take the lead in Christian living. The young people are never afraid, never ashamed and never unwilling to be Christian if they are fortunate to have as

their leaders administrators, teachers and counselors with the faith and the courage to pioneer.

To be truly and sincerely Christian in purpose and program in our colleges is the one sure and certain way to be unique, distinctive and appealing. This approach to education offers to the administration, the faculty and the students a wide-open, limitless field for experimentation and exploration into the beckoning universe of newly discovered knowledge and truth. Moreover, it is a field that is not crowded and is free from strong competitors. However, a warning should be given that the Christian program in college education is not to be entered upon lightly by any one and not at all by the timid soul. There will be some people who will not understand and others who will understand but will not like a Christian program. These people may turn out to be, most likely will be, sitting in some seat of power in the community or in the church. But, if we dare intelligently and patiently and with forthright honesty and sincerity to be Christian, these who will be with us will be more in number and power than those who will be against us. In fact, multitudes around the earth are scanning the threatening sky longingly in the desperate hope that such a courageous educational program will appear as the only saving force for our tragic times.

The Christian college by its very nature and spirit will begin its program of learning and living with the function of admitting into its inspiring fellowship those young people who promise to contribute most to the leadership of all of society in the direction of Christian progress. All useful vocations and professions will be held in equal regard by the Christian college as noble and worthy channels for social and spiritual contributions to humanity. The Christian college will always be aware that it exists not for itself but for the young people who are its students or who may become its students. It will be reminding itself constantly that the college is made for the students and not the students for the college. It will not, therefore, be concerned with recruiting students just to enlarge enrollments and to collect fees. It will leave recruiting to the regimentation program of the Army. It will not be adjusting young people to this or that or the other. It will leave the adjusting of nuts to the

manufacturer of gadgets. It will not be building character or personality. It will leave the building method to the engineers, the brick masons and the carpenters who deal with inanimate things.

The Christian college will be vitally concerned always with growing persons who need a friendly, inspiring and challenging climate in which they can respond as growing physical organisms and spiritual beings to wisely provided intellectual nourishment and spiritual fellowship that guides them to a maturity of freedom and responsibility.

The work of preparing and admitting young people to a Christian college in my judgment has some special considerations of a basic and fundamental character. The process and plan of procedure begins far back of the time when a young person graduates from high school or is faced with a college application blank. More than we have seemed to realize in the past, the problem mutually concerns the home, the church, the high school and the college and demands their common understanding and cooperation. We stand in constant danger of losing the soul of the young applicant along the assembly line of batteries of tests, inventories, forms, schedules, blanks, et cetera, or in the files of records and data afterwards as valuable and essential as all these things unquestionably are in the procedure. We are always in danger of neglecting to give the understanding and sympathetic human touch of interest that encourages and creates faith in the student which often releases the spring of motivation, self-confidence and effort that results in his invalidating the normal predictions of his test scores.

As Christian colleges we are under an obligation to remember, to understand and to believe in the power of faith operating upon life and in life to secure maximum achievement. Persons succeed in accomplishing worthy goals in life to a large degree because people have faith that they can achieve. We are strengthened in our efforts day by day by other peoples' expectations of us. I doubt if the tests we use make any fair allowance for this fact in human experience, but we must. This is not to claim that any person can overcome his lack of ability at any point but it is to claim that the understanding human touch can bring forth dormant or hidden potentialities. We may at

times be guilty of having more faith in test scores than we have in persons. I know of no test that even attempts to measure or to predict the spirit of a person or what his spirit will determine to do when another expectant, sympathetic and stronger spirit becomes his ally.

It is at this point that I wish to say that we of the Christian colleges owe to the church our opportunity in the particular educational work in which we are engaged. Our particular colleges were established and created in spirit by the church to be a definite part of its life and mission. We are under obligation to give our maximum effort to the purpose of making society Christian. There is no hope that society will become Christian if the educated leaders that come out from our colleges and go into the various vocations and professions are not seriously and courageously Christian. The great challenge of every Christian college, therefore, is to set high Christian standards for academic achievement and in every other phase of its life and work and to admit Christian young people of ability and purpose who give promise under its inspiring guidance to dedicate themselves to the service and leadership of humanity. If we and our colleagues do not share deeply this desire and are not dedicated to this purpose we would do our colleges a distinct service, in my opinion, if we could resign forthwith.

If this makes clear the kind of college we are and the type of college we expect young people to seek admission to, we may now discuss admission procedure or work. I have made no survey to find out how everybody is handling his admissions problem. I shall tell briefly, without filling in all the minute details, the direction in which we are working at the problem in the college I represent. We are always seeking, with an open mind, better ways to do our work. We have had and now have and, as far as I can see, expect to have an Admissions Committee. This committee is now composed of the Dean of the College, the Dean of Students, the Associate Dean of Students, the Registrar, the Admissions Counsellor, and the President of the College. This Committee reviews carefully every application which consists of a rather elaborate set of forms and votes to admit or to deny admission to each applicant. Insofar as is possible the Committee or several members of the Committee interview the applicants before their applications are considered

by the Committee for final decision. When there is any serious question about an applicant the Committee requires an interview. I assume this to be the procedure followed in general by most colleges.

Beyond this rather routine procedure we feel that there should be a program of preparation and counseling shared with others not officially connected with the college. We believe the ministers of the churches of our communion, the youth leaders in the churches and the high-school counselors should be our colleagues in helping young people to plan and to prepare for admission to college. For a long time we have begun seeking to lead the ministers of our churches to an appreciation of this opportunity for counseling their high-school young people on college choices and life work. To do this wisely and intelligently the minister has to prepare well and know the complete record each of his young people is making in high school. This is not a venture which a minister can rush into until he has had experience in working intimately with young people. Not every minister can undertake it with the expectation of rendering an acceptable service. Some of our ministers are doing a remarkable service for their young people through personal conferences after they have all the possible data in hand.

In our section of the country many of the high schools have what they call "College Days" to which they invite representatives from all the colleges to interview members of the graduating class on that particular day. This plan by its very nature has in it a strong competitive spirit though there are many values that are commendable. It occurred to us that as a Christian college we should offer our services to the churches in some way that would serve the counseling needs of their young people. Out of this suggestion we are cooperating in holding "College Day" for churches of our communion on an experimental basis in centers where there are several churches. The day is planned well in advance by the ministers and a member of our faculty or staff for a Sunday. It has as its purpose a joint counseling effort to help young people see their vocational and professional possibilities from a Christian point of view and then on that basis to consider the choice of a college best suited to their needs.

The main activities of this "College Day" in the churches follow this general pattern:

1. A faculty or staff member from the college is present at each church for the church-school period. He, with the minister, the teachers of youth and the youth leaders of that church meet all the young people of that church who are enrolled in any year in high school. The purpose of the period is understood in advance by all who share in it and is used to present some facts about college and the need for worthy leadership and for discussion of the facts and needs.
2. The college representative attends the church worship service following this discussion with the high-school young people and the group is recognized by the minister and the presence of the college representative is explained.
3. The afternoon or evening is set aside by the churches for a meeting at one of the churches of the community of all high-school students from all the churches. The ministers and youth leaders from all the churches accompany their young people to this meeting and share in its proceedings. The parents of all students are urged to bring their children and to be in the meeting. The high-school counselors are, also, especially invited to be present. All of the college representatives attend. This afternoon or evening meeting usually follows this general outline:

The faculty or staff members with the assistance of college students tell, in a brief assembly, something of life and opportunities at college.

Group meetings of high-school students with ministers, parents, faculty or staff members and college students divided as follows:

- (a) All high-school seniors in one group to discuss their immediate problems of college attendance.
- (b) All high-school juniors in another group to consider their last year in high-school and to prepare for college.
- (c) All high-school students below junior-year level in a third group to think about high-school completion and college prospects.

Fellowship period to include refreshments or light supper provided by the host church.

A period for individual conferences of high-school students and their parents with college representatives and church leaders.

This day is planned and carried out as an educational service to young people on the part of the churches with the cooperation of the college. We believe it to be an excellent and essential service to render and begins the admission program to college at the time a young person starts in high school. It brings into understanding fellowship and cooperation the parents, the ministers, the youth leaders of the church, the high-school counselor and the faculty of the college as they seek together to guide in a Christian manner and spirit the youth of the church.

Admissions work, of course, is not completed until the new student is greeted and introduced in a friendly and helpful way into the life and work of the college. We have a week's program carefully set up and carried out by the faculty and upperclassmen, and followed up afterwards by an effective program of counselling.

This we feel is the kind of service a Christian college should render to the youth of the church of which it is a part and as far as possible to all youth who seek admission to its campus life and its program of educational opportunity.

It is my earnest hope and prayer that all our church or Christian colleges will determine to meet the demand that being Christian imposes upon them and by Christian methods eagerly and courageously blaze trails in educational leadership.

STUDENT DISCIPLINE IN A COLLEGE

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No one can speak about discipline without making quite clear what he means by the word. In a discussion of this subject it should be clear that whereas the ordinary connotation of the word "discipline" is that it means punishment of some sort, a restriction or an obligation placed upon a person because he has violated the mores or a law, there is another entirely different meaning. By this meaning of the word, "discipline" signifies self-control. A well-disciplined person is an individual who has thorough control of himself, who takes care of the situation within himself and without outer regulation. The actual evolution of the concept of discipline in colleges is that of moving from the first concept to the second. We are more concerned now than ever before with matters of self-control, self-decision, and self-determination in the lives of students. We realize now that many of the arrangements made for the so-called "welfare" of students have not contributed at all to the welfare of the growth of the individual. These arrangements have, on the other hand, been for the welfare of the group, or of the institution, or of society, but perhaps at the expense of the growing maturity of the individual.

Individual or Group?

The welfare of the group or the growth of the individual? This is the great consideration in all matters of discipline. A little bulletin by Sheviakov and Redl¹ does perhaps the best job of anything in print of indicating this clash between individual welfare and group welfare. This bulletin, available and most useful for all who deal with students or young people, proposes "the law of marginal antisepsis." This law consists of

¹ Sheviakov, George V. and Redl, Fritz. *Discipline for Today's Youth and Children*. Washington, D. C.: National Education Association, 1944, 64 pp., 50¢.

the proposition that one should go as far as possible in looking after the welfare and growth of the individual without injuring the welfare and morale of the group. We go as close as we can to forgetting the group in our concern for the individual, but we come to a point where we must provide a kind of antisepsis for the group in protecting it against the behavior of the individual. A simple illustration is that of a group of youngsters taken by their teacher for a boat ride. One of these lads, out of high spirits and a sense of freedom, moves around the boat rather recklessly although he is doing that which is perfectly normal for him and which is a healthy sign of behavior. After being cautioned a few times, he proves even more reckless and it becomes necessary to either completely subdue him or to run the risk of having the boatload of children overturned. The teacher in this case must "discipline" the boy for the protection of the group. The boy is squelched. He may even be forcibly held and this is in no sense good for him or for any growth in self-responsibility, but it is essential for the welfare of the group.

This concept, of course, has been overworked in most of our college situations. Most of us are more concerned with the group than we are with the individual. To put it another way, we are more concerned for the reputation of the institution than we are for the individual's growth in self-realization and maturity. Yet, if we are to put ourselves in line with the most humane and intelligent thinking in this area, we must shift in all of our concepts of discipline from the punitive to the learning emphasis.

In many colleges and universities now, discipline is handled almost entirely on a counseling basis. The person responsible for discipline considers that when a student has broken a regulation or the social mores and has come up for some kind of treatment the first thing to be done by the counselor is to discover *why* this happened. Such a diagnosis may indicate a cause that is in no way related to the immediate situation. Serious social frustration, family disappointment, a psychological trauma resulting from a general sense of personal injustice, or one specific instance involving hurt to the self-esteem of the individual may have sent the student overboard, so to speak, as far as social behavior is concerned. To further repress him

or to merely punish him for the social breach involved will in no sense meet the cause of the social misbehavior. Once the cause is determined, then the question arises as to what can be done to help the student learn from experience. The process has become a learning-and-remedial-treatment approach. The experience may already have caused the student serious grief and concern, with perhaps a loss of self-confidence occurring from what someone has said, or from his own sense of guilt and shame. To further extend this loss of self-confidence will not benefit the student or the group. If the student, on the other hand, can learn from the experience in such a way as to make it less likely that it will happen the second time, if he can learn through having the focus placed upon the cause of the difficulty rather than the symptomatic behavior, then a good discipline situation has been demonstrated.

Three Principles

The organization of discipline facilities on a campus under such a concept follows much the same principle regardless of the size of the institution. The counselor in any circumstance should not have disciplinary authority over the individual whom he is attempting to help or he will risk losing his rapport and his effectiveness in the counseling relationship. For this reason, whoever acts as counselor should be able to appear before a disciplinary committee to give the facts of the case and to make a recommendation, but he should not have a vote on the disciplinary committee. If this is known to students, then their relationship to the counselor remains unspoiled. They will not have to put their best foot forward in the counseling situation by virtue of their knowledge that the counselor will have a vote on what happens to them. I have gone over this problem of discipline and discipline counseling on many campuses and invariably find that if the same person who has authority over what happens to a student attempts to counsel with him, that neither the counselor nor the student feel that the situation was effective.

A second general principle has already been suggested: namely, that no student regulation case comes before a discipline committee until it has been first screened through the

counseling process. This may mean that 75 to 90 per cent of the cases will never have to come before a committee. They are handled on a learning-and-remedial-behavior situation that does not make it necessary to bring them up before a committee for action. The counselor, of course, should be as well trained as possible in mental hygiene and psychology in general for he is in many cases dealing with deviations from normal behavior which are in no sense psychotic but which require considerable skill to interpret. The relationship between the counselor and the student is of greatest importance. I firmly believe that if this relationship is sound, in many cases the student will be able to work out his own controlled behavior or self-discipline with a minimum of assistance from the counselor or anyone else. Frequently what he needs is a chance and some understanding upon the part of the college. This does not mean a soft policy at all, because the counselor and the student have both faced realistically the facts of the situation.

Almost invariably the function of students versus faculty comes up in this matter of a consideration of discipline. Should students sit on the discipline committees? Should they be there in greater proportion than the faculty or should students alone handle discipline problems? In general, the latter is not the best situation. Students are frequently more severe and a little less tolerant of the intangibles in a situation than are faculty. On the other hand, students sometimes do a remarkably good job. You are hearing on this morning's program from the President of Lynchburg College, where I happen to know a very unusual situation prevails as far as student-controlled discipline is concerned. It is one of the best places in the country to observe what happens when students are given a large amount of control. In this situation there are four student bodies handling almost all problems of discipline. An Honor Council, the student body organization, and men's and women's student body governments handle problems of regulation violations and all other kinds of conduct problems in the dormitory or in the College at large—academic, social, or otherwise. Each of these groups has a faculty adviser, but the students indicate that the faculty adviser does not dominate but acts as a counselor of the body concerned. The Dean has a right to veto any of their decisions, but so far the Dean has not done so. There seems to

be a large amount of trust and confidence both on the part of the College in the students and of the students in the Dean of Students and the college administration generally. This is a fairly young situation. No one knows how far it will work, but under the circumstances that prevail at Lynchburg College I think it has an excellent chance. When I served there as a consultant only a month or two ago I went over this rather thoroughly with student groups and found the situation that I have described to you. This means that almost complete student control can work, but ordinarily it is the faculty-student combination that seems to be most effective. Perhaps the place where complete student control works most favorably is in dormitories, and here again the most favorable is the women's dormitory.

This whole matter of organization of counseling facilities is covered rather thoroughly in a new volume by Williamson and Foley entitled *Counseling and Discipline*.² This volume comes out of several years of experience with the kind of discipline organization that I have been mentioning to you. Of course, the University of Minnesota is a large university, but I am convinced that sound principles are advocated here which are not particularly dissimilar from those presented elsewhere, such as in Miner's paper,³ found in the *Proceedings* for last year. This paper stressed the point that discipline is a problem to be handled in terms of the effect upon the individual, but, at the same time, the group must be protected. In a sense this means that discipline is both an administrative problem and a counseling problem. It is a counseling problem insofar as the individual's growth, his understanding of the causes back of his behavior, and the ultimate change in his individual behavior are concerned. It is an administration problem when the group or the institution must be protected from behavior which will affect its prestige or the morale of the total student body. As I have said before, this latter factor seems to take precedence, but it is only one of two parallel considerations and is probably actually secondary in nature.

² Williamson, E. G. and Foley, John. *Counseling and Discipline*. McGraw-Hill Book Co., 1949. (In press.)

³ Miner, Robert J., "Therapeutic Handling of Discipline." *EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT*, VIII (1948), 550-561.

A Study of Discipline

Perhaps I can make clear what I am speaking about in terms of discipline if I give you the results of a study made at the University of Minnesota by Miss Gladys Koepke, who for several years was a counselor of the sort I have been talking about in the Dean of Students Office there and who is now Counselor for Women at Drake University. She studied the total number of disciplinary cases for the year 1947-48. This involved 349 students, about 1 per cent of the student body. She found that about 6 per cent of the total group were repeaters, that sophomores were most frequent offenders with 35 per cent of the total number of cases falling in that class, that veterans were slightly more represented than non-veterans. One or two interesting points were uncovered that may be suggestive to us aside from the bare statistics of the case.

The 349 cases of students in difficulty were classified under the following rubrics: misconduct, which involved inter-personal relationships and violations of housing or other regulations; disorderly conduct, which were more serious types of misbehavior; financial irregularity; sex misconduct; theft; misuse of privilege; and a miscellaneous category. The women were considerably more prevalent in the misconduct category and the men considerably more prevalent in the disorderly conduct category, and slightly more women than men were involved in financial irregularity. Slightly more men than women were involved in sex misconduct. The very considerable number of women misconduct cases is related to the fact that the majority of women involved in such discipline situations lived in dormitories, whereas the majority of men involved in discipline problems lived at their homes or in rooming houses (about 63 per cent). Of course, this proportion of women under the misconduct classification may merely mean that they were living in women's dormitories which had a considerable number of regulations. There is a direct relationship between the regulations on the campus and the number of cases called disciplinary cases. This is a function not of the students or their conduct as much as it is of the social structure in which they live and of the regulations provided by the college.

Another interesting finding of this study is that whereas

there was a normal distribution of cases on *A.C.E. Psychological Examination* scores, there was a significant lowering of the *Co-operative English Test* scores for those in the discipline category. Particularly in the case of the men there was a marked difference between their English test scores and the test scores for men in general. This is true for almost every classification of offense. Thus it is suggested that there may be a language or semantic factor involved in the extent to which students abide by regulations.

Church-Related Colleges and Discipline

Now what is the relationship of all this discussion to church-related colleges? Is there any difference in church-related colleges over other colleges as to the kinds of discipline problems faced or the way in which discipline treatment should be organized? I doubt very much if there is any particular difference in the organization for appropriate handling of discipline. I do think that certain conditions prevail in church-related colleges which may affect the discipline situation as a whole.

In the first place, I think a church-related college has a faculty and administrative staff in general which is more conscious of the significant and enduring values. This means they are a little more aware of behavior upon the part of the student which indicates deviation from the best and most worthwhile behavior. This has both its negative and positive values. It can be translated into a strict adherence to a pattern of behavior which the college sets up and which all students must follow, and this would be bad. It can, on the other hand, involve an awareness of the worthwhile values in life and encouragement of these values in the lives of all the students. When regulation or discipline problems arise, such a college may be better able than some other college to counsel in terms of most worthwhile things as far as values are concerned.

In the second place, and this is a positive factor also, the church-related college is devoted to students as people. Each student has value regardless of background because there is a strong belief that all men have value in the eyes both of God and of men. This situation makes it easier to deal with individuals on a counseling basis than would be the case in an institution

where people were thought of as minds or where there was no particular concern for them as enduring personalities.

Another possible characteristic of the church-related college, however, is not so favorable. I am convinced that in such colleges we have a more flourishing abundance of regulations and a rather minute attention to the details of social behavior which results in more discipline problems in the sense that the Koepke study brought out. This is particularly true of girls where we watch their behavior with great exactitude. Part of this, of course, flows from the constituency of the college and because families want careful watching of the students' lives. I think you can have a considerable number of regulations if the constituency seems to demand them, but I think at the same time there could be considerable latitude in the strictness with which these regulations are observed. I also firmly believe that if there is to be a considerable amount of student responsibility for discipline that they must have a voice in the determination of the regulations. It seems to me entirely unwarranted to ask students to administer regulations which they have had no voice in establishing.

A fourth characteristic of church-related colleges might be described as a kind of paternalistic attitude toward students. This involves a desire upon our part to advise students too much, to hover over them with too much concern, and to expect that they will learn vicariously through our experience. Students or young people in general do not learn too much from the experience of older individuals. In many cases they must see things for themselves. This may involve behavior which we do not think is proper but which may be an excellent learning experience to them. Paternalism is a concept which is not particularly harmonious with growth and maturity upon the part of the individual, and this should be a major concern of all of us who deal with students.

Finally, I think the church-related college may be more responsive to the pressure of social mores than are other institutions. This is both good and bad. A certain amount of conformity is essential. Too much conformity is damaging to the individual and to his development. If we are too much impressed by right and wrong, meaning primarily that our

right and our wrong must be imposed on all with whom we come in contact, then we are damaging their development rather than assisting in it. I remember dealing with this subject in a little bulletin called *Building Self-Confidence*.⁴ In the fourth chapter entitled "Determining What is Right" there is an attempt to help the high-school or college reader of this booklet to observe certain principles in the development of his own personal philosophy of life. One of these principles is that that which is right for you is not necessarily right for every one else. One of the surest ways of developing personal self-confidence and self-assurance is to have convictions by which you abide and which determine your own personal conduct. These convictions, however, must be your convictions and not necessarily those of anyone else. If you can apply this same reasoning to those of us who are college administrators and college teachers, we might have a more reasonable chance of impressing young people that we believe in honesty and rightness but we also believe in the integrity of each individual personality and the right which he has within himself to develop as a distinct personality.

⁴Wrenn, C. Gilbert. *Building Self-Confidence*. Stanford Univ.: Stanford University Press, 1948, 32 pp.

EXCHANGE PROGRAMS OF THE INSTITUTE

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At the Council Day Luncheon, Mr. William Johnstone, of the Department of State, outlined the government program in the field of cultural exchange between the United States and other countries. He pointed to the difference between the program at present, as compared to the program of the pre-war period. This seemed to imply that this entire movement was a new one; however, we know that since the day of Alexander the Great there has been considerable activity in the area of cultural exchange. When Alexander visited the barbarian countries which he had conquered with the intention of imposing the Greek culture on the vanquished, he discovered that the barbarians had a great deal of cultural development themselves and that the Greeks could learn from them. As a result, he brought many young Greek men to the barbarian countries to absorb their culture. He also sent the brightest and most promising people from the barbarian countries to Greece to train them.

Recently the Institute of International Education took a census of the foreign students who were in this country during the school year 1948-1949, which revealed that at present there are 26,700 foreign students studying in America, from 151 different countries, in over 1000 educational institutions scattered throughout the 48 states. When we consider that on the average \$2000 is necessary for a student's maintenance for one year, we realize that this international educational exchange program is quite a big business. Such an extensive program is made possible by the contribution of colleges, fraternities, sororities, men's and women's service clubs, bi-national organizations and other non-governmental private efforts.

The I.I.E. has been a pioneer in this field. Since its inception

in 1919, it has been stimulating interest and promoting the exchange of persons and programs of various types between the United States and the rest of the world. As you know, the Institute's activities are well known in the educational field because it has administered fellowships for the past twenty years.

Student Program.—The Institute has selection committees in each country which review applications from students who desire to study in the United States. The applicants are selected on the basis of their background, their aptitude to pursue a profitable program of study in America, and their ability to interpret their educational and cultural attainments in the United States to their home country. When the applications of those selected by the committees are received by the I.I.E., the various divisions in the Student Service make contacts with educational institutions and many private organizations for scholarships and fellowships.

After the arrival of the foreign student, the Institute conducts an orientation program where the student is given basic information about educational institutions, and the general way of life in the United States. During the entire period of the student's stay in the United States, the Institute gives advice and assistance to the student in supervising his work, planning vacation entertainment, handling his insurance, financial and other emergency matters.

News Bulletin.—The I.I.E. publishes a monthly bulletin of news on programs and developments in the field of educational exchange at home and abroad. In addition to outlining information on new and old programs, the bulletin carries articles by prominent people in various fields such as Mark Starr, of the International Ladies Garment Workers Union—"Closed Minds are Dead Minds," Mr. Edward W. Barrett, Editorial Director of Newsweek—"Enlightening the Enlighteners." The April issue was devoted to Unesco material in honor of the Second National Conference of the United States Commission for Unesco. Copies of this bulletin and the census "Education for One World," as well as other publications of the Institute, may be picked up from the table in the back of the room.

Information and Counseling Service.—The Institute has al-

ways been the central clearing house for information for educational opportunities in this country and abroad. Many inquiries made, both in person and by mail, are handled by this division. While some years ago the I.I.E. received about 35,000 inquiries in one year, at present there are weeks when we receive approximately 35,000 pieces of mail. This shows the accelerated interest in foreign study.

Fulbright Fellowships.—Through the sale of surplus war material, considerable funds have been accumulated for use in education, under the Fulbright Bill. Since these funds are in foreign currency, it may be used in foreign countries or for transportation to and from the United States. These funds open educational opportunities for Americans who wish to study in countries which have Fulbright funds. Applications for such fellowships may be made through the Institute.

Professors and Lecturers Division.—The I.I.E. is well known in this field. For many years the Institute has brought specialists in many fields to this country to lecture at educational institutions and organizations from coast to coast.

Recently a number of debating teams were invited from England. These teams traveled to universities throughout the United States and debated with American groups on subjects of economic or social significance. Some of the comments made by these debaters are quite significant and refreshing and indicate the real value in such experiences. For example, an Oxford team was quite impressed by the serious preparations by American teams in regard to the gathering of volumes of statistical and historical data, while they deplored their lack of humor in the presentation of their material.

Division Of Specialized Personnel.—This newest section of the Institute was organized recently due to the increasing interest in bringing leaders and specialists from various countries to visit and learn the American "know how." The program of this division is somewhat different from that of the Student Service.

Usually the leaders and specialists are selected by each country because of their outstanding work in one field. They are recognized leaders in that country, who are sent to the United States to learn the latest developments in America, in order

to assist in the reconstruction of their country. These persons are mature people and their program consists of consultation, observation, and visits to educational institutions, governmental bureaus, industries, foundations, etc. Quite often their itinerary covers travel from coast to coast.

In this division several specific projects are administered:

United Nations Educational, Scientific and Cultural Organization.—Sponsors Reconstruction Fellowships in six specific fields: Educational Administration, Social and Cultural Sciences, Art and Music Education, Cinema and Radio Education, Librarianship, and the Educational Problems of War-affected Children. One person from each of these fields is selected from the war-devastated countries. The selection is made by the Ministry of Education of each country; however, the final award is made by Unesco. The program is planned and administered in this country by the Division of Specialized Personnel of the Institute. Unesco has prepared a handbook on international fellowships which outlines opportunities in many countries as well as in the United States.

American Chemical Society.—Funds are raised by the group for specialists in various phases of the field of Chemistry. Selection of the Fellows is made by Unesco while their program is planned, administered and supervised by the I.I.E.

The Belgian Institute for the Encouragement of Scientific Research in Industry and Agriculture.—Sends Fellows to this country to learn the latest developments in their field. These persons usually stay a period of three to six months and return to their country either to the educational institution or to an industrial concern from which they came. Most of the persons financed by this society are specialists in the fields of Chemistry, Engineering, Metallurgy, Physics, and Agriculture.

Atlantique.—Is the French-American Society which brings social workers to the United States to get practical training in cooperation with social work agencies in the United States.

American Association of Collegiate Registrars.—Has made a grant to a registrar from a war-devastated country to observe and study administrative and registration procedures in American universities.

Institute of Inter-American Affairs.—Brings educators in vo-

cational, educational, and technical fields from Latin American countries to the United States for observation of American methods of education in urban and rural communities.

The importance of international cooperation has been recognized by the National Vocational Guidance Association and the American College Personnel Association since they both appointed a special committee to develop programs in this area. These committees had a joint meeting on Tuesday evening and specific projects of cooperation were outlined. The Chairman of the meeting will present the proposed program later.

I would like to make a few specific suggestions of ways in which counselors, personnel workers, and deans in universities may be of assistance in this exchange of persons program:

1. They could aid the foreign students in adjusting to study methods and in general university life, make contacts for them in the community so that the students may learn by participation in the American communal life, interpret for them the differences in American culture and their own culture, and assist them in financial matters, if necessary.
2. They could assist American students wishing to study abroad by giving them information about opportunities, and informing them of proper agencies to contact in planning such a study trip. They might give them data on Fulbright opportunities, student tours, and summer study possibilities. Orientation programs may be conducted for American students going abroad, giving them information on the cultural background of the countries in which they will visit, as well as making them conscious of the fact that each foreign student is an ambassador of the United States, and, therefore, must realize his responsibility for interpreting the American way of life and ideals to the countries he may visit.
3. They could collect and contribute books, tests, forms and other materials for the purpose of sending them to deans, counselors and personnel workers in other countries to assist them in organizing and developing guidance programs.

In conclusion I would like to point out that deans and the guidance and personnel staff of colleges in their roles as coun-

selors have a real responsibility and a unique opportunity to make it possible for foreign students to really experience and comprehend the American thought and way of life. Let us strive to develop international activities in the N.V.G.A. and A.C.P.A. so that we may contribute an important link in the world-wide chain of understanding upon which lasting peace must depend.

VOLUNTARY EXCHANGES WITH THE OCCUPIED AREAS—WHY AND HOW?

HAROLD E. SNYDER

Director, Commission on Occupied Areas, American Council on Education

At your past two conventions I have been privileged to speak concerning the UNESCO-CIER program for educational reconstruction in the war-devastated countries. I am pleased to be able to report that our final survey of the efforts of American voluntary agencies shows that, since 1946, aid totaling \$214,000,000 has been given by approximately 400 organizations. This represents the work of millions of school children, college students, professors and other professional workers, farmers, members of churches, labor unions, and clubs of all types. By sending books and other educational materials, offering fellowships and study grants, sending educational advisory missions and organizing work camps, they have played an important part in building world understanding.

It is gratifying to note that among the organizations now reporting worthwhile projects is the National Vocational Guidance Association which has collected and sent abroad thousands of books, pamphlets, and tests. As you are aware, this effort which came to a head during the past year represents a long period of careful preparation. It should result in great satisfaction and in lasting contacts with professional workers and with major educational institutions and organizations in other countries. American experience in the fields of guidance and counseling ranks high among the priority interests of nations struggling to modernize and strengthen their systems of education. This gesture by your Association will meet a real need. It will also constitute an important new link in the world-wide chain of understanding upon which lasting peace must depend for support. May I, therefore, on behalf of CIER and UNESCO, express my thanks and also my congratulations to the American College Personnel Association which is developing several international projects?

CIER is discontinuing its separate existence this spring. While the job is far from completed, it was felt to be timely to turn over direct responsibility for leading the United States effort relating to this important part of the UNESCO program to the United States National Commission for UNESCO which had not yet been formed when CIER was organized in 1946. Your association is urged to cooperate with the National UNESCO Commission as you have with CIER.

Gratifying as the response has been, much remains to be done. Any voluntary effort necessarily leaves major gaps and neglected aspects. The countries under military occupation have received only about 5 per cent of the total contributed by American voluntary organizations for educational reconstruction. This is far less than the extent of their devastation, the magnitude of their problems and the nature of our national responsibility would justify.

When I first spoke to you two years ago, it was still not possible for American organizations to send personnel, books, or other educational materials to German universities, schools, and libraries. Bringing Germans to the United States for study was then only beginning to be considered as a possibility for the rather distant future. CIER's rôle in relation to the occupied countries became, therefore, at the outset largely one of urging—and, at times, even prodding—to bring about the prompt opening of channels of communication between American education and educational agencies in those countries.

This goal has now been largely achieved, only partly through the efforts of CIER alone, and largely as a result of the increased understanding by our occupation authorities and our government agencies of the importance of education in the development of democratic institutions. Exchanges of personnel, goods, and services between the three Western Zones of Germany and the United States and with Austria, Japan, and Korea are now possible, subject, of course, to the limitations of necessary security controls and the extreme economic disadvantages under which these peoples still find themselves. Remaining obstacles are rapidly being eliminated. It is now possible to say that individuals and institutions in this country desiring cultural exchanges with the four occupied countries, and willing to take the initiative to find financial means and

the personnel to bring about such contact, can have such relations.

People in the occupied countries are, of course, still severely handicapped in their ability to take the initiative in bringing about such exchanges. The recently improved status of our education offices in Germany and Austria and the earmarking of substantial government funds for the promotion of exchanges of personnel between our countries are examples of the increasingly enlightened way in which our military government is discharging its occupation responsibilities.

Educational reconstruction in the occupied countries is an extremely delicate and complex process. In Germany and Japan the problem is one of reorientation and re-education, of overcoming the effects of years of training in blind obedience to the rulers of a totalitarian state. This process of re-education goes forward under unbelievably difficult conditions in Germany where the country is divided into four distinct political units, torn by ideological conflicts, crushed both physically and morally.

The occupied countries are, to a considerable degree, the official responsibility of the United States. The world, therefore, views with intense interest and sometimes considerable concern what happens there. Our national objectives, our conception of democracy, the efficiency of our methods, our integrity, will be judged largely by what we do in the occupied countries and how we accomplish it. Our military government in these countries recognizes that it, as an occupation force, is extremely limited in what it can do—or could do even with larger government appropriations—toward educational and cultural rehabilitation.

The educational system of a country is so sensitively and integrally a part of the fabric of the national culture that reforms imposed from without are likely to meet with extreme resistance. Lasting changes must be brought about from within; to stimulate and encourage this process requires the utmost tact and understanding. It is possible to help along the process of cultural rehabilitation and of democratization by offering services known to be both needed and desired, such as exchanges of personnel and materials.

Here American colleges and voluntary organizations have certain advantages over our official governmental agencies. They can begin to establish direct cultural links with similar institutions and groups in the occupied countries without incurring the suspicion that such effort may have a political motivation. Through friendly acts of good will, they can help to create a spirit of cooperation, of mutual interdependence, conducive to the restoration of self-respect and the desire for self-help. By encouraging the best qualified of their faculty members and college administrators to undertake teaching, advisory, and administrative responsibilities in the occupied countries, they can help to give these areas the benefit of American technical and professional developments bearing upon problems of reconstruction and reorientation.

To accelerate the process of cultural interchange, the American Council on Education, at the request of General Clay and other government officials, established the Advisory Committee on Cultural and Educational Relations with the Occupied Countries (the name has recently been changed to the Commission on Occupied Areas), under the chairmanship of President Herman B. Wells of Indiana University. As its name indicates, the Committee serves in an advisory capacity both to official and to voluntary agencies. It endeavors to stimulate an interest on the part of organizations and institutions in playing a greater part in the cultural rehabilitation of the occupied countries and in the development of lasting co-operative relations between groups here and those in Germany and the other countries. It will assist in locating qualified personnel to undertake major professional assignments abroad.

To carry out its functions, the Committee has established a series of panels or commissions to act for it in the special fields requiring particular attention in the occupied countries. These panels are, in almost every case, sponsored by an established, permanent organization—usually a coordinating or research council of the principal organization in each Field.

Materials describing the objectives and scope of the Advisory Committee are available by writing to the Committee, at 744 Jackson Place, N.W., Washington 6, D.C. Your interest, advice, and cooperation is earnestly invited. Special atten-

tion is directed to the provision of fellowships, scholarships, and study grants for graduate and undergraduate students from the occupied countries. Generous provision has been made from United States Military Government funds for the payment of transportation of such students. Other costs must generally be made from voluntary sources. The Institute of International Education administers this program and can supply full particulars. Since Miss Adanion of the Institute is also on this program, I will leave to her all reference to other voluntary exchanges of personnel.

Other specific ways in which colleges and organizations can aid in the cultural rehabilitation of the occupied countries follow. Professional and technical books and periodicals—even in the English language—are urgently needed. Used items in good condition, including certain types of textbooks, are welcome. Those interested in sending books and periodicals may secure detailed information concerning what to send, and where and how to send them by writing to the U. S. Book Exchange, Library of Congress, Washington 25, D.C. This agency is the successor to the American Book Center which has forwarded more than one and one-half million items since 1946.

A new book-aid program of great importance has just been launched by CARE. Under this plan libraries, both public and institutional, in many parts of the world, will make their needs known to CARE. American contributors can purchase through CARE the needed new books at greatly reduced rates and will be notified which books have been purchased and their names. Detailed information can be secured from CARE, 50 Broad Street, New York City.

Educational advisory missions, such as the medical and dental teaching missions of the Unitarian Service Committee, are another extremely useful form of service.

Educational work camps, of the type conducted by the American Friends Service Committee, provide not only valuable service, but afford an opportunity for development of international understanding on the part of participating students. Full information concerning such projects can be secured from the Interdenominational Commission on Youth Service Projects, 203 North Wabash Street, Chicago, or from the National Student Association.

One of the most important channels for student effort is the World Student Service Fund, 20 West 40th Street, New York 18, N. Y. This agency will be glad to recommend special projects on behalf of students and faculty members of institutions in the occupied countries.

Finally, some of you may recall that on Council Day two years ago in Columbus, I proposed that the graduating classes of schools and colleges memorialize themselves by making such contributions toward the educational reconstruction of schools in devastated countries. More than 300 schools and colleges have responded to this appeal and have received certificates for framing showing that they have been willing to make a small sacrifice to aid those less fortunate than themselves in lands which have suffered the ravages of war. I have received very few complaints from school principals that they missed the usual class gift of a painting, a statue, or a plaque which departing seniors have in the past left to clutter up the halls. On the contrary, many have taken great pride in their ability to point to concrete evidence of the world-mindedness of their students.

The Graduating Class Memorial Project is continuing this year. Those of you who are class advisors are urged to draw this possibility to the attention of your students. These special funds may be contributed either direct to the UNESCO Reconstruction Fund or to any responsible American operating agency engaged in educational reconstruction abroad.

I have tried to provide reasonably brief answers to the questions "Why exchanges with the occupied countries?" and "How can voluntary action be made effective?" I hope that I have convinced you that the opportunity for service is unlimited. I know that we can depend upon the continued interest and support of your two associations.

EDUCATIONAL and
PSYCHOLOGICAL



MEASUREMENT

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A COMPARISON BETWEEN PERFORMANCE ON A SENTENCE COMPLETION TEST AND ACADEMIC SUCCESS¹

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Introduction

SENTENCE completion tests used as projective techniques require careful and time-consuming interpretation. For use as predictive or selective devices with any substantial number of subjects, the time and effort required are prohibitive. The first specific purpose of this study was to evaluate a method of scoring which might be useful for predictive purposes. A second purpose was to investigate the relationship between conflict as measured by the sentence completion test and academic achievement. The hypothesis to be tested was that conflict, as measured by the sentence completion test, would be significantly different in two groups of persons of equal ability, but with markedly divergent scholastic achievement.

A review of the literature concerned with sentence completion tests as projective techniques reveals that until recently relatively little research has been done. Although this type of test was devised to study mental capacity and reasoning ability by Ebbinghaus in Breslau in 1897 (5) and introduced into this country by Traube (25) and Kelley (8) in the early part of the twentieth century for the same purpose, the first use of the test as a projective technique in personality study is credited to Payne in 1928 (14).

Rohde (17) reports that Payne assembled a test to be used on college students with the intention of eliciting inhibited responses, and that his test was subsequently rather widely used in vocational counseling. An article by Tendler in 1930

¹ This represents the main content of a thesis submitted by the junior author in partial fulfillment of the requirements for the Master of Science Degree in Psychology at Purdue University.

(23) suggests a version of a sentence completion test called a *Test of Emotional Insight*, which might be used to discriminate emotional from thought processes or to arouse direct, free, non-choice responses. He conducted an experiment on a group of subjects of comparable intellectual ability to validate his test against autobiographic sketches and the *Woodworth Personal Data Blank*.

In the decade following Tendler, little interest was manifested in this sort of projective device until 1940, when another test was composed from Payne's original sentences by Hildreth and Rohde of the Lincoln School of Teachers College at Columbia University (16). The greater part of sentence completion tests have evolved from this revision in modified form with various types of sentence structures of lesser or greater complexity. Hildreth and Rohde validated their measure, judged in terms of the Murray (12) schemata of personality organization and quantitatively expressed as frequency and intensity, against ratings and judgments of teachers, parents and counselors. They found correlations, all categories of opinion being combined, of .79 for girls and .82 for boys. The agreement between five scorers of the test was 78 per cent. A consistency of .82 for girls and .76 for boys was found to exist after a period of eight months.

The war period created a need for personnel screening devices, and special and unusual military assignments led to a wider utilization of clinical diagnostic aids, among which the sentence completion test was included. Joel Shor (20) of the City College of New York, calling his form of the test the *Self-Idea Completion Test*, used it in approximately 1800 clinical personality studies in five military installations and found it a valuable aid in the interpretation of "personality dynamics for diagnostic and prognostic purposes." Holzberg (7) came to similar conclusions, but he, too, does not present any quantitative demonstrations of his deductions. Lorge and Thorndyke (10) introduced single-word responses in order to facilitate objective scoring, but were able to report little relation between answers and actual behavioral patterns of the subjects tested. Rohde (16) implies that the technique employed by these workers was too limited and specific for freedom of response.

Stein (21), of the Veterans Administration, thought that the sentence completion test was a valuable supplement to other projective devices and particularly useful in a clinical way, since it required less specific training either to administer or to interpret. Furthermore, the test, being more structured, yielded more material with unimaginative patients than did the *Thematic Apperception Test* or the Rorschach. Rotter and Willerman (18), using an adaptation of a test devised by Cameron (3) to study schizophrenic thinking, utilized the test in the Army Air Forces convalescent hospitals to assist in evaluating psychological fitness for return to duty. A means of scoring it in terms of the degree of conflict revealed in the responses was devised. Theirs is essentially the method of conflict determination that has been employed in the present study.

The test used in this study is the one developed under the guidance of Murray and MacKinnon (13) in the Office of Strategic Services Assessment Program to provide interviewers with material for analysis of the personalities of the candidates. It has been quoted by Stein (21) and Symonds (22). The test was so satisfactory for the purposes of the Office of Strategic Services that it has been adopted for use in the Veterans Administration Rehabilitation programs and may be thought, therefore, to have some general applicability. The test was assumed to allow the expression of unconscious trends that would normally have been hidden in the "reaction formation" of the personality of the individual, and the results were said to refer to "fantasies or unconscious impulses" which might not have any counterpart in "behavior and attitudes of real life." Still, Symonds (22) feels that the test cannot be used as yet in prediction of personality disorders and states, "From this study, it was noted that as far as the Office of Strategic Services' record goes, the high and low groups were sharply differentiated for each characteristic. But there was no discernible trend for the same characteristics as taken from the sentence completion test."

The prediction of academic success from scores on intelligence tests, achievement tests, high-school grades and first-semester college marks, as Cole (4) points out, has not shown as marked a degree of accuracy for those students at the upper

end of the distribution as they have for those students falling at the lower end. As a matter of fact, she reports that within the past ten years our ability to predict has declined in accuracy, due perhaps to more adequate vocational counseling in high school and the encouragement of students to enter fields commensurate with their ability, thus diverting many of the poorer students (upon whom the prediction in great part depends) from colleges. Consequently it may be assumed that the failure to predict achievement at the upper part of the distribution may indicate that intelligence tests alone are inadequate in uncovering those very important factors which are related to scholastic success and which may prevent students from achieving work within the range of their ability.

Although in general the correlation between scores obtained on such a test of ability as the A.C.E. (*American Council on Education Psychological Examination*) and academic success is approximately .60 (15), Leighton at Oregon (9) and Bell at Purdue (2) have shown that there is a less-than-to-be-expected difference between the performance of students at lower positions on the intelligence continuum and students at the upper position.

Several workers have attempted to establish a relationship between non-intellective factors and academic achievement. McCandless (11) gave individually administered Rorschach tests to two groups of highly superior men matched on the basis of the General Classification test score, age, education, mechanical comprehension, reading comprehension and mathematics. The first group had grades of straight A; the second averaged low C's and D's. There were no significant differences, although some differences were suggested. Thompson (24) administered the group Rorschach to 128 students of general psychology and analyzed the data in terms of semester grades and verbal aptitude test scores. By the selection of several factors which gave low correlation with the aptitude test and higher correlation with grades and combining these factors with the aptitude test, the resultant multiple correlation with grades was .74. The aptitude test correlated .66 with grades. Therefore it was felt that the non-intellective Rorschach factors might be considered as a partial index to motivation. Altus (1)

combined an adjustment test and a study habit inventory with a verbal aptitude test and secured a multiple coefficient of correlation of .76, compared with a coefficient of .60 when the aptitude test was used alone. Scott (19) found that the correlation between tests and marks rose to .74 with the addition of data from personality ratings and tests.

The sentence completion test has been used here in an attempt to get at some possible factor among those that might distort predictive devices and to note whether or not such a factor, judged in terms of clinical recognition of conflict, might discriminate students of the same level of ability who do achieve predicted scholastic levels from those who do not.

Procedure

The subjects considered in this study were 157 students out of 540 enrolled in an introductory course in psychology at Purdue University in the spring term of the academic year, 1947-1948. All of the 540 students were given the *Sentence Completion Test*; however, of the original total, only those falling at the sixtieth percentile rank or above on the A.C.E. (*American Council of Education Psychological Examination*) were utilized for analysis.

The experimental group was divided into a group of high achievers and a group of low achievers on the basis of their cumulative grade-point indices. The division between the groups was determined by making a frequency distribution of the cumulative grade-point indices of the entire group of 540 students, which covered a range from 2.05 to 6.00, and selecting from the whole sample those students who stood at the sixtieth percentile and above and those who stood at the fortieth percentile and below. Those students with an A. C. E. test percentile rank of 60 or above and whose grade-point indices fell at or above the sixtieth percentile were designated as the high-achieving group, and those whose test percentile rank was 60 and above but whose grade-point indices fell at or below the fortieth percentile were designated as the low-achieving group. The students were distributed among the various schools of the University according to the following order: Engineering 54; Science 35; Liberal Science 26; Home Economics 13; Agriculture

11; Pharmacy 6; Trade and Industrial Education 5; Special Students 4; and Physical Education 3. The students ranged from the first to the eighth semester and were distributed among the terms in the following order: First 5; second 54; third 19; fourth 54; fifth 19; sixth 12; seventh 8; and eighth 4. There were 49 girls and 108 boys in the total group.

It is interesting to note that when the mean intelligence scores for the two criterion groups, who were divided only on the basis of their achievements, were calculated, that a difference did exist. The mean intelligence percentile rank for the high achievers was 80.45 and that of the low achievers was

TABLE 1
Comparison of Total Group

	High Group	Low Group	Difference	Critical Ratio
Mean Sentence Completion Score.....	9.00	.96	8.04	2.07
Mean A. C. E. Score.....	80.45	74.62	5.83	—
Mean English Score.....	80.00	58.96	—	—
Mean Term.....	3.48	3.87	—	—
Percentage Male.....	63%	81%		
Percentage Female.....	37%	19%		
Percent Engineering.....	31%	42%		
Science.....	22%	24%		
Trade and Industrial Education.....	2%	6%		
Liberal Science.....	20%	8%		
Home Economics.....	9%	6%		
Agriculture.....	7%	6%		
Pharmacy.....	5%	2%		
Physical Education.....	2%	2%		
Unclassified.....	2%	4%		

74.62. The mean percentile rank on the *Purdue Test for English Aptitude* was 80.00 and 58.96 respectively (see Table 1). The average grade-point index for the high-achieving group was 4.83, whereas that of the low group was 3.41. The difference between percentile ranks that does appear in the given direction would be expected if, as previously stated, a correlation of approximately .60 does exist between grade-point indices and intelligence. According to the regression phenomenon, if two measures that are rectilinearly related are studied in a group of persons selected on the basis of one trait, the mean value of the second trait will regress toward the general mean of that trait in a whole population. It would be expected, therefore, that the low achievers would as a group average somewhat

lower on intelligence scores than the high achievers. On the basis of the above descriptions it was assumed that the subjects were not an atypical group for an experiment that would, in effect, be testing for the presence of another personality element, namely, some emotionally toned factor. However, in view of the fact that differences did exist between the criterion groups on the A. C. E., the *English Placement Test* and on other factors such as sex, term in school and major interest, further groupings were made in which the high and low achieving groups were matched on all possible factors.

The sentence completion test used in the study was Part I of the test constructed under the direction of Murray and MacKinnon (12). Each part of the test, as designed by these workers, consisted of 50 incomplete sentences written with an eye to stimulating responses in the following areas, as outlined by Stein (21):

- (1) *Family*: Attitude toward the family unit and toward each parent.
- (2) *Past*: Attitude toward the past, reactions to previous frustrations and failures and effects of past experiences on present behavior.
- (3) *Drives*: The primary motivating factors in the given personality.
- (4) *Inner States*: The feeling experienced most frequently and the nature of the situations arousing such feelings.
- (5) *Goals*: The ends toward which the person is striving.
- (6) *Cathexes*: Objects, activities or ideas desired and for which the subject is willing to make sacrifices.
- (7) *Energy*: Energy level and how this energy level was affected by stress and frustration.
- (8) *Time Perspective*: Attitude toward past, present and future.
- (9) *Reactions to Others*: Attitudes toward inferiors, equals and superiors.
- (10) *Reactions of Others to Subject*: Impression of how others feel toward subject.

The actual sentences selected, Stein (21) reports, for the form of the test used in this study, were those that had been distinguished as having a high degree of individuality as contrasted with stereotypy from responses to incomplete sentences which had been studied in a pilot work on 25 records. Those items that were stereotyped in response were eliminated and other items were added to cover areas that were thought to have been

inadequately covered in the first version from which the present one was derived. Another index was determined on 40 records of the last form of the test, and it was found that there was still a high degree of individuality for the added items. The final 100 items of the test were of two types in general: First, incomplete sentences in which names of persons appeared and thereby suggesting that the subject might react to various situations as though he were another person and unaware of revealing his personal attitude; and second, incomplete sentences of a more personal type or of items containing the pronoun "I", and hence calling for responses with no attempt to disguise the purpose of the test.

The test of one hundred items was administered in two sections to avoid monotony and fatigue. However, only those fifty items of Part I answered by the high- and low-achieving groups were scored and analyzed for this study.

The responses were scored according to the method of Rotter and Willerman (18) but modified for the present study by differentiating responses into only three categories: conflictual, neutral and positive, rather than into three degrees of conflictual and positive areas. Conflict, positive or neutral responses were determined on the basis of clinical judgment, which included suggestions offered by Rotter and Willerman. These authors say that conflict might show itself in various forms, and in order to avoid undue complication in scoring, they grouped responses indicating hostility, recall of unpleasant past experiences and symptom elicitations as examples of conflict. Similarly, humorous, optimistic and acceptance responses were considered as positive adjustment, whereas neutral responses were those that did not manifest a marked trend in either direction. Facetious answers, omissions and avoidances were considered as neutral since these investigators did not find a greater incidence in the more maladjusted subjects as judged by other clinical data. The number of negative or conflictual responses was subtracted from the number of positive responses and divided by the total number of items attempted. The scores thus obtained were considered as whole numbers by moving the decimal place. If responses to intermittent items were omitted, they were, according to the above scoring, considered attempted

and neutral, but all items after the last attempted response were not computed into the total number of responses when omitted. A negative score, following this scoring method, would indicate a predominance of conflict-scored responses. In an article appearing after this study was completed Hardy (6) describes the use of the same test scored in essentially the same manner, but used to evaluate dominance or aggressiveness. She gives no data on reliability of scoring.

In order to ascertain the reliability of scoring the *Sentence Completion Test* as a measure of conflict, 25 tests were discussed by the experimenters so that a standard method of scoring could be agreed upon to the extent that such an agreement is feasible. One hundred tests were then scored separately by the experimenters. A Pearson product-moment coefficient of correlation was computed between the total conflict scores on 100 tests as judged by the two scorers. A further investigation into individual items was undertaken in order to determine those items upon which the two scorers showed marked agreement. For each of the 50 items on 100 tests the per cent of agreement between the two scorers was computed for each of the scoring combinations. Those items upon which there was found to be little agreement and those upon which there was found to be considerable agreement were then singled out. The items that showed the greatest amount of agreement between the scorers were then compared with the items that were found to differentiate between the two criterion groups in an effort to determine whether or not individuals scoring such a test could agree on making the items that apparently measured most clearly the trait in question.

In an attempt to obtain a measure of self-reliability, or of one scorer's consistency in scoring, the junior experimenter re-scored the 100 tests after a period of one week, and a coefficient of correlation was computed between the first and second scorings.

On the basis of the observation that certain items in the test were consistently scored in one direction or the other, due to the nature of the sentence stem presented, an analysis of the responses to specific stems was made, and certain items were noted which were for the most part answered in the same way.

With a view to eliminating those items that for various reasons did not differentiate between the two groups, the significance of differences between the percentages of each group answering each item as conflict, positive or neutral was computed. Those items that resulted in a critical ratio derived from the differences between the criterion groups, significant at the 10 per cent level of confidence, were regarded in this study as being those that discriminated between the assumed conflict and the non-conflict groups.

In spite of the fact that it would be almost impossible to obtain equivalent forms of a sentence completion test, because of the partially unstructured nature of the items composing it, an odd-even split correlation was done in an attempt to evaluate the internal consistency or reliability of the test. The tests of 100 subjects who had completed all of the fifty items were selected for this investigation. Total conflict scores for the 100 subjects were computed for the odd items and on the even items. A correlation between the individual's total conflict scores on the odd and on the even items was calculated. The Spearman-Brown Prophecy Formula was used to arrive at a reliability coefficient for the entire test.

To test the second hypothesis of this study, that is, that individuals who score high on intelligence tests and do relatively poorly as measured by their course grades are individuals that show more conflict than those persons whose academic achievement is commensurate with their intellectual ability, the significance of the difference between the mean conflict scores for the high- and the low-achieving groups was determined. It was felt that if a true difference did exist and if the sentence completion test does measure emotional factors, one could say with a reasonable degree of confidence that emotional factors are in part responsible for the discrepancy found so often between academic performance and academic capacity.

Moreover, such a difference would seem to indicate that tests of this nature do measure some psychological trait related to conflict and may be employed in identifying those individuals who, because of their maladjustments, will more than likely do poorly in scholastic endeavors.

Results and Discussion

Measures of the reliability of scoring the sentence completion tests used in this study were obtained by two methods. First, a correlation of .86 was obtained between the scoring the one experimenter and a separate scoring of the same 100 tests by the other experimenter. A second method of determining the reliability or the consistency with which one scorer is able to agree with himself, was based on a re-scoring of the same set of tests one week later. This resulted in a correlation between the two scorings of .83. Both of these coefficients of correlation are significant above the one per cent level of confidence and would seem to be evidence of the reliability with which such an instrument can be scored.

TABLE 2
Disagreement between Scorers

Item	Per cent of Disa- greement
36. Bud would rather do without.....	26%
39. George was sorry after he.....	25%
15. The fact that he failed.....	20%
30. Nothing is so frustrating as.....	19%
4. Nothing annoyed Bob more than.....	17%
25. Bud's family.....	17%
28. I usually feel awkward when.....	17%
38. His father.....	17%
32. He was confused about.....	16%
47. He often thinks of himself as.....	16%

There were certain items on which the two raters showed a high percentage of agreement; conversely, on some items they showed less agreement. The median percentage of agreement for the fifty items was 91 per cent. Some of the sentence stems elicited reactions which required a high degree of discrimination. Table 2 lists the items on which there was a disagreement exceeding 15 per cent between the two scorers. The sentence stems of items 39, 15, 30, 4, 28 and 32 seem to suggest some degree of conflict to most individuals completing the items, and the interpretation of this in terms of a conflict score is largely evaluated in terms of the scorer's interpretation of what might be considered an excess of conflict. Items 36, 25, and 38 lend

themselves most readily to evasive or non-committal answers on the basis of their relatively unstructured stems. Item 47 confronted the scorer with a dilemma in terms of responses that could be considered either as an attitude of commendable ambition or one that reflected an over-evaluation of self. It is suggested that further research might be designed to study the various items with the intent of eliminating certain stems upon which the reliability of scoring is doubtful. It is anticipated that this data and other results of this data may be utilized in the construction of an improved form of the test.

TABLE 3
Agreement of Criterion Groups on Positive Responses

Items	Per Cent of Total Responses	
	High Achievers	Low Achievers
21. The war interfered with his plans for.....	99.1	100.0
40. What they liked about him most was.....	96.0	100.0
45. I always wanted to be.....	90.2	95.6
44. Bud could work best at.....	90.6	93.6
50. I take pains.....	91.9	90.7
35. The men under me.....	85.1	88.7
26. On his evening off, Paul.....	82.8	86.8
5. Mike's fondest ambition.....	81.6	84.1
22. Finding no one who could help him, Will.....	81.0	83.0

Other factors must be taken into consideration in addition to reliability of scoring. For example, many items yielded responses which were rated the same for practically all subjects. These items yield high reliability of scoring but will seldom be discriminative for any predictive purposes. Items illustrating this factor are shown in Table 3. Inasmuch as items 5, 21, 40, 44, 45 and 50 refer to ideals and ambitions, one would expect most individuals to desire to appear in a more favorable light than is provided in their present situation. Hence, a response on these items may merely reflect a reaction on the verbal level rather than an indication of the actual behavior pattern. A similar trend may be noted in those items which present a situation representative of the individual's relation to his fellow men as in items 22, 35 and 40. To be well liked by others is a common desire, and responses to these items tend to be colored by this need for acceptance. Item 26 also shows a consciousness of

what is socially acceptable in the individual's expression of his preference in recreation.

Items that elicited negative or conflict responses to a comparable degree of agreement in both criterion groups are listed in Table 4. The stem of these items suggests a response reflecting feelings of inadequacy or anxiety which are present to some degree, however slight, in all individuals. Obviously, such items are not discriminative in respect to the *degree* of conflict but certainly are of value to the clinician in tapping the *source* of conflict. Consequently, any subsequent test designed for predictive use constructed upon the basis of the present study

TABLE 4
Agreement of Criterion Groups on Negative responses

Items	Per Cent of Total Responses	
	High Achievers	Low Achievers
46. He is often at a loss when.....	93.5	95.6
19. The thing which bothered Harry's conscience.....	89.0	92.2
13. Joe was uneasy because.....	89.0	91.5
34. Joe feels that he suffers most from.....	84.4	85.1
18. Every time he wasn't invited.....	85.0	80.8

might be modified by eliminating both low reliability items and items which yield mainly positive or mainly negative responses. However, the elimination of these stems might reduce the usefulness of the tool as a clinical device.

It appears wholly possible that if a more thorough and intensive training period had been entered upon before any attempt at scoring was made, that an even greater agreement in scoring would have resulted. It must be kept in mind that the sentence completion test is a clinical tool and should be subjected to the strenuous rules of interpretation that are evident to those persons who have had extensive training and experience in personality evaluation. One would not, then, expect a high degree of compatibility in the scoring of such tests between untrained or differently oriented experimenters. The need for great clarity of definition becomes obvious when one is dealing with such clinical terms as conflict, optimism, hostility, acceptance or avoidance. Before a consistent quantitative measure

can be obtained, such words must be carefully defined and redefined. A clarification of such definitions should lessen the tendency of the clinician to lose himself in semantic quandaries in deciding what constitutes conflict. One would hardly expect any agreement of interpretation or scoring in the use of such projective devices as the Rorschach Test if those who use the test were not thoroughly trained in seminar groups and versed in clinical psychology. Similarly, those who employ the present test should seek closer agreement on terms and interpretation.

The internal consistency of the test, examined by means of correlating the conflict scores on the odd and on the even items for 100 tests, may be expressed in a reliability coefficient of .78, stepped up by the Spearman-Brown prophecy formula. Since it is difficult to obtain equivalent forms of an even well-structured test, the possibility is perhaps even greater in a test of the present type that the split made actually results in parts that differ to a considerable degree. Thus the degree of internal consistency found by the above-mentioned process must be viewed with some caution since the basic assumption, that is, equivalent forms, may have been violated in the odd-even split. Nevertheless, it was assumed that the random split did determine two forms of the test that were sufficiently alike for practical purposes to allow such an analysis, and the correlation indicated that the two parts did in some way measure similar reactions. It is possible that the relationship between the odd and even parts of the test might have been greater had the scoring reliability been of a higher order than .86. The obtained reliability coefficient is significant, however, beyond the one per cent level of confidence. This fact may suggest that in spite of the assumption of inequivalent forms, the test does measure what it attempts to measure with a better-than-chance consistency.

Once it was established that there was a high degree of scoring reliability and that the tests did have an internal consistency, the next step was to test the hypothesis that individuals who score high in intelligence but who achieve below expected performance in college class work are those who are more likely to experience conflict than are persons whose academic work is more in accord with their measured general

ability. Table 1 presents the results when the total groups were compared. A critical ratio based on the mean difference between the conflict scores of the high and the low achievers was found to be 2.07. This figure infers that at approximately the 4 per cent level of confidence, the two criterion groups do differ as far as conflict is concerned. The low achievers, as measured by the sentence completion test, do show greater conflict than do the high achievers. However, it is evident from an inspection of Table 1 that the two groups are not exactly equivalent. The groups are not matched on sex, term, school or English test

TABLE 5
Comparison between Male and Female Students on the Sentence Completion Test

Sex	Number	Mean	Difference	Critical Ratio
Male.....	108	2.56	14.18	3.67
Female.....	49	16.74		

TABLE 6
Comparison by Terms on Sentence Completion Test

School Term	8	7	6	5	4	3	2	1
Mean Sentence completion Score.....	15.5	7.36	7.83	7.13	8.91	2.92	10.73	1.5
Number of Students....	4	7	12	19	34	19	53	5

scores or even on the A. C. E. scores. The significance of the differences between mean A. C. E. percentiles and English percentiles were not computed. This was not done for two reasons. First, an average of percentile scores is a very crude measure of central tendency, and second, these comparisons are not basic to the present study. The differences are substantial and indicate the need for more careful matching.

In order to ascertain whether any of these differences might result in biases which would confuse the basic problem, the results presented in Tables 5, 6 and 7 were computed. It is noted that the female students included in this sample scored much higher than did the male students. The high-achieving group includes a larger proportion of females than the low group. This may or may not be a biasing factor. Since the female students are also typically high achievers, the factor of emo-

tional adjustment may be operating. On the other hand, the test used was originally constructed for use with a male population, and the scores on female students may not have the same meaning as for the males. For instance, all proper names are male. It is barely possible that the girls are not talking about themselves. Consequently, it was felt that this factor should be controlled.

Tables 6 and 7 present the mean *Sentence Completion Test* scores for terms and schools respectively.

Table 7 presents comparison by schools on the *Sentence Completion Test*. Some differences are indicated. However, the

TABLE 7
Comparison by Schools on Sentence Completion Test

School	Number	Mean
Engineering.....	54	.43
Science.....	35	4.79
Pharmacy.....	6	31.17
Trade and Industrial Education.....	5	24.50
Liberal Science.....	26	16.43
Home Economics.....	13	12.19
Agriculture.....	11	3.59
Physical Education.....	3	21.17
Unclassified.....	4	23.00

lack of consistency and in some instances the extremely small number of cases make any generalization impossible. Nevertheless, it was felt necessary to attempt to control these factors.

Table 8 presents comparisons between the low group and a matched group of high achievers. This matching was based primarily upon the A. C. E. scores, but an attempt was also made to match on the other factors. These groups seem to be quite equivalent in every respect except on the *English Placement Test*. It is evident that a difference exists between the high- and low-achieving groups insofar as the *Sentence Completion Test* scores are concerned. This difference is significant at approximately the 10 per cent level of confidence; however, it is still in favor of the high achieving group.

Table 9 presents comparisons between the low group and a matched group of high achievers. This matching was based primarily upon the English scores, but an attempt was also

made to match on other factors. These two groups are roughly equivalent on all factors, but are not as well matched as the groups described in Table 8 on the A. C. E. and school affiliation. It is evident from this comparison that a slight difference

TABLE 8
Comparison of Groups Matched on American Council on Education Examination

	High	Low	Difference	Significance
Sentence Completion Mean.....	7.21	.96	6.25	1.61
Psychological Score Mean.....	74.50	74.62	.12	—
English Test Mean.....	74.19	58.96	15.23	—
School Term Mean.....	3.98	3.87	.11	—
Sex—Male.....	39	39	0.00	—
Female.....	9	9	0.00	—
School—Engineering.....	20	20	0.00	—
Science.....	11	11	0.00	—
Trade and Industrial Education.....	2	3	1.00	—
Liberal Science.....	4	4	0.00	—
Home Economics.....	3	3	0.00	—
Agriculture.....	4	3	1.00	—
Pharmacy.....	2	1	1.00	—
Physical Education.....	1	1	0.00	—
Unclassified.....	1	2	1.00	—

TABLE 9
Comparison of Groups Matched on English Placement Scores

	High	Low	Difference	Significance
Sentence Completion Mean.....	7.68	1.09	6.59	1.38
Psychological Score Mean.....	78.63	75.77	2.86	—
English Test Mean.....	62.09	61.32	1.37	—
School Term Mean.....	3.76	3.88	.12	—
Sex—Male.....	35	35	0.00	—
Female.....	9	9	0.00	—
School—Engineering.....	15	18	3.00	—
Science.....	12	9	3.00	—
Trade and Industrial Education.....	2	3	1.00	—
Liberal Science.....	5	4	1.00	—
Home Economics.....	1	3	2.00	—
Agriculture.....	4	3	1.00	—
Pharmacy.....	3	1	2.00	—
Physical Education.....	2	1	1.00	—
Unclassified.....	—	2	2.00	—

exists between these high and low groups. This difference of 6.59 is approximately the same as the previously mentioned differences, but has a lower significance (critical ratio of 1.38). This may be due to the reduced number of cases considered.

It seems reasonable to conclude that there is real (although slight) evidence here that emotional conflict as indicated on this

test is a factor to be considered in accounting for low scholastic achievement in persons of above-average indicated aptitude. Further research should be directed toward the possibility of increasing the accuracy of prediction of academic success by including sentence completion test results in a coefficient of multiple correlation. Furthermore, it would seem logical to investigate the lower extreme of predicted achievement. These results concern only the upper extreme of predicted achievement.

TABLE 10
Items that Discriminate between the Two Criterion Groups at the Ten Per Cent Level or Less

Test Item	Per cent of High Achievers	Per cent of Low Achievers	Critical Ratio
<i>Positive Responses</i>			
2	55.7	34.7	2.519
4	43.2	28.6	1.828
39	34.3	20.0	1.894
40	96.0	100.0	2.031
<i>Negative Responses</i>			
2	40.6	61.2	2.441
4	54.0	69.4	2.339
10	71.6	83.3	1.695
39	64.8	77.8	1.677
<i>Neutral Responses</i>			
10	3.7	0	2.046
15	3.7	0	2.027
28	4.6	0	2.282
36	25.2	14.3	1.669
38	11.0	4.1	1.635

Since the test as a whole has to distinguish between the criterion groups as to conflict, it was thought that a few specific items might have been responsible for the discriminations made. Critical ratios derived from the differences between percentages of the high and the low groups, marked either conflict, positive or neutral for each question, were computed. Most of the items had little or no discriminative value. For a measure of conflict it was felt that some of the items were "dead wood." However, it should be remembered that these items might be very useful in the measurement of other personality traits or in the identification of areas of conflict.

Table 10 presents data on nine items which were found to differentiate between the criterion groups at or beyond the 10 per cent level of confidence. This table illustrates the fact that some items discriminate when positive responses are considered and still other items discriminate on the basis of neutral responses.

The number of items that discriminate significantly at the 10 per cent level of confidence is small and is about that which would be expected from chance alone on a test of this length. However, insofar as positively and negatively rated responses are concerned, the differences are in the direction of a greater number of positive responses for the high group and more negative responses for the low group. Furthermore, when the critical ratios are plotted, the curve is skewed in the high positive direction. Further research should be designed to construct a test from the positively discriminating items, which would then be applied to a similar group. The present study is thought to provide basic data for the construction of a more reliable and more discriminative test for the prediction of academic success. It should be emphasized, however, that many items not discriminative for the present purposes may be discriminative for other predictive purposes.

Conclusions

For the particular sample of students selected, in light of the technique employed in this study and on the basis of the results presented, the following conclusions may be drawn:

1. A relatively high degree of agreement between two separate scorers and on one scorer repeating the task, was found to exist in the estimation of conflict as reflected by responses to a sentence completion test.
2. Some indication of reliability of the sentence completion test as a measure of conflict was established by the odd-even technique. Further investigation, assuming no marked changes of personality in the intervening period, should further establish the reliability of this type of projective technique.
3. The discrepancies found between high-tested intelligence and relatively low scholastic achievement may in part be attributed to emotional disturbances. The use of the sentence com-

pletion test in identifying those individuals who may do poorly in college course work because of emotional immaturity seems promising.

4. Certain items were found to have more discriminatory value than others in measuring conflict. Too hasty elimination of those items that do not appear to discriminate conflict among high and low achievers does not seem advisable. Valuable clinical information may be derived from all items which not only throw light on the entire personality structure but also uncover specific areas and possible causes of emotional maladjustment.

5. The following areas of further research are suggested:

- (a) Use of sentence completion tests to evaluate more specific traits of personality.
- (b) Construction of sentence completion tests for specific purposes, such as the prediction of academic success.
- (c) Use of sentence completion tests in the prediction of achievement in other relatively unstructured situations and activities.
- (d) Study of a group of individuals of low predicted achievement.
- (e) A repeat study in which the test is administered at the beginning of academic work. It is considered possible that the degree of conflict indicated in the present study may be the result of poor achievement rather than the cause of it.
- (f) Comparison of measures of conflict with discrepancies between achievement based on college entrance examinations. Perhaps the relationship between conflict and achievement is not a straight line function. Extraordinary achievement beyond predicted achievement may be motivated by conflict.

Finally, it is felt that the present exploratory study may open up new and valuable areas of research in two somewhat divergent fields. First, the use of projective techniques and particularly the sentence completion test as predictive or selective tools shows some promise. Secondly, an approach is suggested for the evaluation of the many reasons why college students do not always achieve as expected.

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THE MEANING OF A COMPREHENSIVE STUDENT PERSONNEL PROGRAM

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A COMPREHENSIVE student personnel program should serve the end of unification and direction of all of the diverse activities of the university which impinge upon the student in order that these may be coordinated in a manner designed to accomplish the stated objectives of the entire institution. In view of this conception of the purpose of a student personnel program in a university, the writer here presents a discussion of the reasons that the many college bureaus and services properly belong within the framework of a meaningful and comprehensive student personnel program.

Although great variation exists in the avowed objectives of American colleges, it is safe to say that practically all institutions subscribe to one or more of the following aims: To prepare for responsible citizenship, to prepare for a vocation, to prepare for wholesome life adjustment. Despite considerable divergence of emphasis and language, one might summarize with the statement that the institution of higher learning seeks to develop people into well-adjusted and socially productive members of the community. Whereas some colleges place their major emphasis upon academic achievement, others place it upon social maturity, or character development, or success in the professions, or the attainment of an understanding of themselves and the world about them, depending largely upon the educational philosophy of the current administrative head.

The attainment of any of these diverse objectives must rely, ultimately, upon a thorough understanding of the individual student: his drives, his capacities, his personality structure, his intelligence, his past experiences, his physical condition—in brief, the totality of traits which make of him a unique and dynamic entity. Certain essential facts must be known about

the individual student. Students cannot be truly evaluated and understood in mass any more than souls can be saved in bundles. The qualities of most importance in achieving the avowed goals of higher education must be known for the individual *as* individual.

Modern psychological and educational research have made considerable progress in providing diagnostic instruments which aid in the understanding of the student. These devices have, to date, been chiefly valuable for diagnosis. They are merely suggestive of the more positive remedial and developmental procedures without which mere diagnosis is a sterile and self-pleasing process. The clinical tools, however, are indispensable to a sound and scientific insight into the characteristics of the individual student. It is for this reason, therefore, that the student personnel program is generally centered about the psychological and guidance services.

The widespread existence of medical services (as well as athletic programs) in American colleges bears testimony to their recognition that the physical characteristics and health status of students are important factors in their adjustment and progress. Positive developmental objectives are met through such means as intra-mural sports and required athletic or military training programs. It should be obvious that close working relationships are desirable between the medical and health services and the psychological, academic, and social services of the college. Without complete medical information, for example, the psychological diagnosis can yield highly deceptive, if not completely fallacious, results. For its part, the medical service cannot afford to neglect the psychosomatic aspects of the student's ills.

Most colleges have long since recognized the need for and importance of student social activities. Such recognition has led to the establishment of directors of campus social activities. Sometimes the title of the office indicates clearly its function. At other times, direction of social activities is part of the over-all duties of deans of men, deans of women, or directors of student personnel. Here again, a sound program is designed to allow for the individual differences and needs of the students.

The social activities program of the student should take into

account his academic achievement, his health limitations, his need for socialization, his degree of withdrawal or outgoing personality qualities, and even his financial status. Social activities are not equally beneficial to all persons. For certain students, under certain conditions, they may even be decidedly harmful. It is apparent, therefore, that integration with all of the other student personnel facilities is necessary to insure that the social program is an aid in achieving the developmental objectives of the institution.

Faculty Advisors, or Counselors, (or whatever may be the title applied to those who set up the study program for the student) have a real responsibility for seeing to it that the academic program is in harmony with the needs, abilities, interests, vocational and developmental needs of the individual student. This they cannot do unless they have available for use the information provided by the various services already mentioned. True enough, at time of first registration, most of the information required is not yet available. There does exist, however, a body of facts which may be derived from the application blank, the office of admissions, or the university examiner. In addition, there are such data as high-school record, college-aptitude testing, the expressed desires of the student, and other usable types of information. After first-semester registration, a growing body of facts, as well as an achievement record, is available. This increased knowledge should provide a more realistic and better-informed academic counseling subsequent to the first-semester registration. The work of the institution will fall short of its objective to the extent that the academic program is out of harmony with the needs, capacities, and drives of the individual student. It is to be noted here that the greater the freedom of course-choice in the institution, the greater the need for a rich informational basis in determining course schedules.

The progress a college can make towards its goal of student development is determined to a considerable extent by the nature of the people it admits, i.e., the end product is limited by the quality of the human material with which it works. Although much can be done to improve social characteristics, to change the student's attitude towards himself and others, the

college cannot be expected to elevate, to any appreciable degree, the intelligence quotient. Nor can the college be expected to counteract completely the effects of an unhappy home background, or to overcome fully any undesirable effects of the student's experiential background from birth to mid-adolescence. Since the alumnus will, regardless of the university's efforts, in many respects show a strong resemblance to the initial entering Freshman, the selection process will always remain a vital part of the student personnel program. This means that those responsible for admissions must be fully cognizant of the aims and purposes of the university, using selection techniques carefully designed to abet the institution's major and long-range goals.

No academic program can guide the growth of its students in a comprehensive way without the active cooperation of its instructional faculty. The instructors must not only refrain from sabotaging the program but must be actively engaged in relating their classroom and extra-classroom student contacts to the student's wider needs. The student's classroom performance should be evaluated not only against a general class standard, but also in terms of his interests, his learning aptitudes, his work or social activities, his emotional stability, and all other factors pertinent to what may be reasonably expected of him. The instructional staff should be an integral part of the personnel program to the extent of contributing valuable information about the student as well as gaining new insight into the student from the information contributed by all the above-mentioned student personnel facilities.

As a minimum beginning step, the faculty should be educated to the belief that the over-all program is not only worthwhile, but vastly more important than what occurs in a single class or course area. This step involves genuine realization that the major problem is not the learning of a particular subject matter, but the development of the student as a totality. The key to this attitude is the conviction that the focal point of the instructional program should be not the factual material presented, but the student rather than the syllabus, and what happens to the student as a result of his relationship to the class, the material, and the instructor. The emphasis must be upon the student as a

dynamic organism, not upon the textbook. In brief, teachers must realize that they are teaching people as well as subject matter. The importance of what is taught is not in any sense lessened by the realization that the learner is a complex of likes and dislikes, desires and aversions, fulfilling course requirements according to his own particular conative as well as cognitive processes. The degree to which the faculty will take this larger view (and, by the same token, the degree to which they will cooperate in the total student personnel program) is determined in major part by how closely they themselves are involved in the work and planning of the intermediate and long-range aims of the institution.

A program cannot be forced upon the instructional staff from above through the "power of authority." Whenever such attempts have been made, they have failed miserably. Authoritarian pressure, moreover, is a poor educational technique, one particularly out of place in a democratic nation. At best, sheer administrative force results in an outward show of compliance which masks inner discontent and rankling. The best of those teachers out of sympathy with the program will soon gravitate elsewhere, leaving behind those colleagues with lesser ability to remove themselves to more agreeable academic pastures. A program for student personnel which seeks, therefore, truly to integrate all of the functions of the university toward a single clear-cut educational objective, must first develop a spirit of genuine cooperation in that largest and most powerful of all academic groups—the faculty.

Most universities maintain student placement services. These services are sometimes regarded as of minor importance, although often they are well financed, well staffed, and genuinely useful to a fair proportion of the student body. Only rarely, however, are such services integrated into the over-all program. Part-time job placement, for example, should serve more than a narrow and immediate monetary need. Part-time work can have great value in enriching the occupational information of the student. It can serve as a valuable exploratory experience for the selection of one's life work. It also results in establishing a set of social contacts. These may be either positive or negative in value, depending upon their effect on the student. In any

event, the placement office cannot serve the end-goals of student development unless it places students on jobs in accordance with the information furnishable by the psychological and health, social and academic facilities as to the hours, conditions, and types of work most suitable. Full-time job placement, generally occurring upon course completion or graduation, calls for even far greater care and consideration. Within the limitations of the prevailing socio-economic conditions at the time of placement, all that has been learned about the student—his abilities, his motives, his needs and his training—should be brought to bear in such a manner that he is most advantageously placed in terms of both himself and of the society the institution seeks to serve. To place the student without regard to all of these factors is to render, in the long run, a genuine disservice to both the graduate and the employer. It follows logically, therefore, that the placement bureau must also be part of the pattern designated as the student personnel program.

In addition to the fund-raising activities, and in addition to its value in perpetuating "school spirit," the alumni office can also serve a vital function in the student personnel program. Real evaluation of what the college has accomplished must wait upon post-academic follow-up. Since the alumni office retains contact with the student after he has left the campus, the personnel service can use this channel to appraise the effectiveness of its efforts. Periodic alumni surveys should be conducted with a view toward determining not only the immediate, but the long-range results of residence in the academic community. Some of the questions involved are: Have the attitudes and factual knowledge present at graduation persisted? Has the training at college been applied to post-school life? Has the graduate been active in community affairs? Has he maintained cultural interests? These are but a few of the many questions to which at least approximate answers are obtainable by means of surveys carefully developed by persons expert in this type of study. In such manner, the college can evaluate not only the consequence of its efforts and the validity of its claims, but also the effect of any changes in the selection and training of students, and the results of any shift in educational philosophy or emphasis. The alumni office, at least to the extent involved

in this discussion, must therefore be regarded as an important part of the total tapestry of a comprehensive student personnel program.

An attempt has been made in the preceding paragraphs to present an overview of what the author means by the Student Personnel Program. To have the major significance it deserves, it must be viewed in this larger light as a major and all-inclusive instrument of the educational structure. Its function is so molar and comprehensive that it cannot be viewed intelligently apart from the entire matrix of higher education. Almost inevitably, one is forced to start with the end-goal of the pedagogic process before the individual parts or steps can be meaningfully arrayed and appraised.

Any half-hearted half measures are foredoomed to failure. A partial program can at best meet only with partial success. The same can be said for a complete program in which all the parts are disconnected and independent. Just as the disarrayed pieces of a puzzle fail to form a meaningful pattern, so do disjointed services fail to create a functional program. Compartmentalized bureaus, coordinated only in terms of an on-paper relationship, each regarding itself as holier-than-thou, each going blithely upon its way with indifference to what is being done on other parts of the campus, do not in any sense of the word constitute a comprehensive and functional personnel program.

THE VERBAL COMPONENT IN MATHEMATICS ITEMS

LYNNETTE B. PLUMLEE

Educational Testing Service

I. Background and Purpose of Study

IN the past, mathematical aptitude tests of the College Entrance Examination Board included problems which contained few or no words, since it was assumed that if mathematical aptitude were to be tested most fairly, the verbal factor should be eliminated as completely as possible. This elimination of words was carried to the extent of assuming that

$$\frac{6x^2}{2x} = (?)$$

would be understood by the examinee to be a problem in simplification. The so-called aptitude test, furthermore, required a fair amount of algebraic achievement on the part of the candidate.

With the inception of new mathematical-aptitude testing programs, a more or less complete reversal of policy took place with regard to the wording in mathematics aptitude problems. In an attempt to test arithmetical-reasoning ability as apart from achievement, some of the newer tests consisted entirely of word problems, such as:

If an old engine required n quarts of oil per month and a new engine requires 60% as much oil, how many months will the new engine run on the amount of oil used by the old engine in t months?

Other tests contained varying proportions of the two problem types.

Two of the questions which arose in the course of deciding the proportion of each type of problem to be used in a given test were:

1. Are the two test types, non-verbal mathematics and verbal mathematics (illustrated above) equivalent, i.e., are they measuring the same abilities?
2. Is there a higher degree of relationship between verbal aptitude and verbal mathematics than between verbal aptitude and non-verbal mathematics?

The purpose of this paper is to report evidence, gathered from three tests, concerning the answers to these questions.

II. Tests and Populations

The three tests on which the study is based may be described as follows:

Test A

Population: 497 women, some of whom had been out of school many years

Subject-Matter Coverage	Part I	Part II
	Verbal Aptitude, consisting of antonyms and analogies	Mathematics Aptitude, assuming some knowledge of algebra and plane geometry
Number of Questions	75	35
Time Allowance (in minutes)	30	30

Test B

Population: 534 men, some of whom may have been out of school many years

Subject-Matter Coverage	Part I	Part II
	Verbal Aptitude, consisting of antonyms, analogies, and sentence completions	Mathematics Aptitude, assuming some knowledge of algebra and plane geometry
Number of Questions	170	50
Time Allowance (in minutes)	60	60

Test C

Population: 607 men, at the end of their first semester of college

Subject-Matter Coverage	Part I	Part II	Part III	Part IV	Part V
	Mathematics Achievement, covering algebra, trigonometry, and first-semester college mathematics	Verbal Aptitude, consisting of antonyms, analogies, and sentence completions	Grammar	Paragraph Reading	Wordiness, involving the elimination of unnecessary words
Number of Questions	75	80	75	30	86
Time Allowance (in minutes)	90	100			

III. Procedures

The problems in each test were classified as verbal or non-verbal by using the following two questions as criteria:

1. Can one work the problem without understanding the wording?
2. Is the problem stated as formally as possible?

An affirmative answer to both questions classified the problem as non-verbal. Where the answers to the two questions were opposed and equally strong, more emphasis was placed on the first question. In answering the first question, we assumed that mathematical terminology would be understood in a formally presented problem. It was considered that terminology such as the following did not classify the problem as verbal: "negative terms in expansion," "the point . . . lies on the line," "identically equal," "what is the value of . . . in terms of . . . ?," "is

TABLE 1

Test	Number of Items	Mean	Standard Deviation	Reliability*
Test A				
Verbal Aptitude	75	45.8	14.3	.92
Mathematics				
Verbal mathematics	14	6.5	2.8	.58
Non-verbal mathematics	21	9.0	4.5	.78
Total mathematics	35	15.5	6.8	.84
Test B				
Verbal Aptitude	170	78.1	26.4	.94
Mathematics				
Verbal mathematics	25	13.9	3.8	.61
Non-verbal mathematics	25	13.3	5.3	.81
Total mathematics	50	27.3	8.4	.84
Test C				
English				
Verbal Aptitude	80	40.2	12.4	.88
Paragraph Reading	30	15.4	4.3	.62
Total English†	271	109.4	29.0	.93
Mathematics				
Verbal mathematics	33	14.3	4.5	.62
Non-verbal mathematics	42	18.4	6.6	.78
Total mathematics	75	32.7	10.3	.84

* Kuder-Richardson formula 21 (see footnote).

† Total English includes all four English Parts (II, III, IV, and V) of Test C.

equivalent to which of the following values?"'. Tables or graphs with explanations were considered verbal.

Means and standard deviations for part scores are reported in Table 1. The reliability figures given in this table were obtained by using the Kuder-Richardson formula 21.¹ This formula assumes that inter-item correlations are equal, that item

¹ $r_{tt} = \frac{n}{n-1} \cdot \frac{\sigma_i^2 - n\bar{p}\bar{q}}{\sigma_t^2}$, where r_{tt} is the correlation between equivalent forms of a test, n is the number of items, σ_i is the standard deviation of test scores, \bar{p} is the average per cent answering each item correctly, and \bar{q} is the average per cent answering each item incorrectly.

difficulties are equal, and that all examinees try all items. Since these conditions were not entirely true for the tests in this study, the reliability figures are probably lower than those which would be found by using the Spearman-Brown split-half

TABLE 2
Intercorrelations

	Verbal Mathematics	Non-Verbal Mathematics	Total Mathematics
Test A			
Verbal Aptitude	.41	.35	
Verbal Mathematics		.73	
Test B			
Verbal Aptitude	.43	.43	.47
Verbal Mathematics		.69	.89
Non-Verbal Mathematics			.94
Test C			
Verbal Aptitude	.29	.30	.32
Paragraph Reading	.43	.40	.45
Total English*	.40	.40	.43
Verbal Mathematics		.72	.89
Non-Verbal Mathematics			.95

* Total English includes all four English Parts (II, III, IV, and V) of Test C.

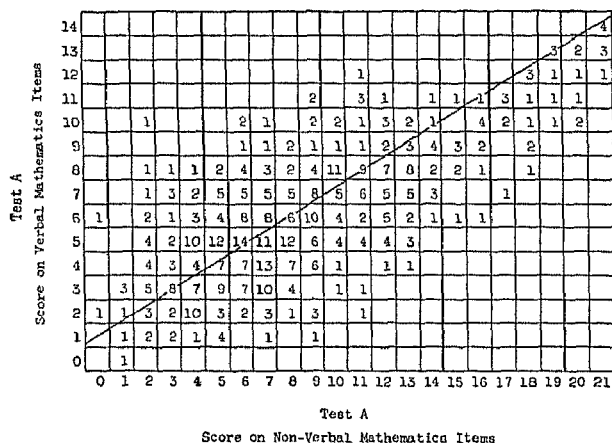


Figure 1

method. A more exact Kuder-Richardson formula was not feasible, since certain basic data were no longer available for all tests.

It will be noted in Table 1 that the number of verbal mathematics problems was equal to the number of non-verbal mathe-

matics problems in Test B only. In the other two tests, the ratio was about 2 to 3 in favor of the non-verbal. Intercorrelations among the question types are shown in Table 2.

Figure I shows for Test A a plot of scores on the verbal mathematics problems against scores on the non-verbal mathematics problems. A line has been drawn representing the scores on the verbal mathematics items which correspond to those on the non-verbal mathematics problems. That is, the line passes through the mean of both sets of problems and through all points which are in the same position, in terms of the standard deviation and relative to the mean, on the two scales.

IV. *Analysis of Results*

When answering the first of the two questions asked at the beginning of this report (i.e., are the two mathematics test types equivalent?), one should note that there is wide variation in subject-matter content among both verbal and non-verbal mathematics problems in these tests. Hence, little significance can be attached to any differences among the means or the standard deviations. It will be seen that the reliability of the non-verbal mathematics type is consistently higher than that of the verbal mathematics type. As pointed out earlier, however, the conditions assumed in the Kuder-Richardson formula by which these correlations were computed were not entirely fulfilled, and hence too much reliance should not be placed on the coefficients obtained. The correlations between questions types are sufficiently high in comparison with these reliability coefficients, however, to suggest that, if chance and measurement errors were eliminated, we should expect the two types to correlate highly, although probably not perfectly. At any rate, it is reasonable to assume on the basis of the presented data that they are measuring abilities which are quite similar.

In answering the second question (i.e., is there a higher degree of relationship between verbal aptitude and verbal mathematics than between verbal aptitude and non-verbal mathematics?), one will note that the correlation between verbal aptitude and verbal mathematics is not consistently different from that between verbal aptitude and non-verbal mathematics. The fact that these correlations are under .45 in each instance indicates

that the difference in the abilities measured by the verbal mathematics and the non-verbal mathematics types, whatever these abilities are, is not closely related to verbal aptitude.

It will be seen in Figure I that, for lower-scoring examinees, the frequencies tend to spread more into the upper left corner than into the lower right corner. That is, the verbal mathematics score, relative to its mean, exceeded the non-verbal mathematics score, relative to its mean, for the greater number of candidates. The tendency may be at least partly explained by the number of years since a large portion of the population had studied formal mathematics, a fact which may, in large part, have accounted for the lack of perfect correlation between the abilities tested. At any rate, persons with high non-verbal mathematics scores do not appear to have been handicapped seriously, if at all, by the verbal factor in the verbal mathematics problems.

V. Conclusions

It seems safe to conclude from these data that the student who lacks verbal facility is not handicapped to any greater extent on verbal mathematics problems than on non-verbal mathematics problems. The evidence suggests that these two types of problems measure abilities that are highly but not perfectly correlated.

MULTIPLE-CHOICE RORSCHACH RESPONSES OF COLLEGE ACHIEVERS AND NON-ACHIEVERS

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Purpose

THE purpose of this study is to evaluate the *Harrower Multiple Choice Rorschach Test* as an aid in diagnosing and differentiating between achievers and non-achievers attending the University of Georgia. In order to accomplish this end, responses to the test were used in two ways. First, according to the method outlined in Harrower-Steiner (1), in which statistical weights for "good" and "poor" responses are rated on a ten-point scale. Second, a "content" or item analysis similar to the procedure suggested by Zuckerman (6) was made for each of the 300 possible responses.

Population

The subjects for this study were University of Georgia students selected in the following manner: The probation group (non-achievers) was composed of 158 students who were placed on academic probation at the end of the Winter Quarter, 1948. The non-probation group (achievers) was selected from classes in Psychology during 1947-1948. No member of the latter group was, or had ever been, on academic probation. It was not possible to equate the two groups for intelligence or previous educational experience. The average age in the non-probation group was somewhat higher than in the probation group, but, otherwise, they may be considered comparable for practical purposes.

Procedure

The basic assumption for the *Harrower Multiple Choice Rorschach Test* is that those individuals most likely to give

certain types of responses, when responding freely in the Rorschach method, will select such responses when confronted with them in a multiple-choice situation. The form of the test used in this study is composed of 300 possible responses divided into three groups of ten each for each of the ten Rorschach plates. Weights or scores are assigned to each of the ten responses according to the scale of values given in Harrower-Steiner, *op. cit.* Harrower suggests calling responses numbered one to five, Good; those numbered six to ten, Poor.

Standard procedure was followed in administering the examination to 158 University students on academic probation, and 93 non-probation students. The test results were coded and punched on Hollerith cards.

Table 1 gives the mean weighted score of the multiple-choice responses of probation and non-probation students. From this table it is seen that, with one exception, all differences favor the non-probation group, i.e., the probation group tends to choose responses in the direction of the poor or heavily weighted items. The average for the non-probation group was below the Harrower cutting point between good and poor answers for only one of the 30 response groups. The average for the probation group was below the cutting point in eight out of 30 cases. Further examination of Table 1 led the writers to suspect that a modification of the Harrower critical scores was in order for the two groups under study. Accordingly, critical scores, or points of over-lapping of the two curves, were obtained for each of the response groups. In this way a variable cutting point was obtained for each group of weighted responses. The new cutting points between good and poor responses are shown in Table 1, Column 8. For example, for Card I, Response Group A, the point of overlapping was found to be between responses five and six. This coincides with Harrower's cutting point between good and poor answers. However, Response Group B for the same card under the new system has a cutting point between responses seven and eight. For the remainder of this study, instead of calling responses good or poor, we will call those below the critical score "probation signs," and those above the critical score, "non-probation signs." Using the list of probation signs that appeared to be the most predictive (those indicated by an asterisk in Table 1), it was found that 77 per

TABLE I
Differences in Mean Weighted Scores of Achievers and Non-achievers on Harrower Multiple Choice Rorschach Test

Card Number and Response Group	Mean Non-Ach. N = 158	S.D. Non-Ach.	Mean Ach. N = 93	S.D. Ach.	Diff. Means	C/R	Cutting Point Between
I A*	3.21	1.98	2.73	1.26	.48	2.29	5-6
I B	3.98	2.60	3.27	1.92	.71	2.45	7-8
I C	4.23	2.50	4.10	2.45	.13	.41	4-5
I Average	3.77	1.62	3.31	1.34	.46	2.42	3-4
II A*	4.56	3.21	2.68	2.30	1.88	5.37	5-6
II B*	5.09	3.38	2.75	2.19	2.34	6.69	4-5
II C*	5.54	3.20	3.45	2.75	2.09	5.50	3-4
II Average	5.06	2.75	2.98	1.93	2.08	6.93	4-5
III A	1.90	1.84	1.66	1.40	.24	1.14	3-4
III B	2.25	2.58	1.71	1.95	.54	1.86	3-4
III C	2.91	2.87	2.13	2.22	.78	2.36	6-7
III Average	2.51	2.03	1.84	1.31	.67	3.19	4-5
IV A	4.91	2.28	4.20	1.90	.71	2.63	4-5
IV B	4.87	2.97	4.33	2.30	.54	1.59	6-7
IV C*	4.70	3.28	3.85	2.87	.85	2.13	4-5
IV Average	4.81	2.16	4.15	1.46	.66	2.87	5-6
V A	2.39	1.54	2.46	1.69	-.07	.32	4-5
V B	3.41	2.76	2.61	1.91	.80	2.67	7-8
V C	2.15	1.33	2.08	1.33	.07	.39	4-5
V Average	2.59	1.23	2.40	1.16	.19	1.19	3-4
VI A*	4.93	2.59	3.45	1.62	1.48	5.48	4-5
VI B*	4.72	2.57	3.87	2.01	.85	2.93	4-5
VI C	4.89	2.78	4.54	2.50	.35	1.03	4-5
VI Average	4.85	2.07	3.97	1.30	.88	4.19	5-6
VII A*	4.67	3.37	3.32	2.86	1.35	3.38	3-4
VII B*	4.71	2.84	3.69	2.72	1.02	2.83	2-3
VII C*	5.90	2.84	4.69	2.71	1.21	3.36	7-8
VII Average	5.08	2.31	3.94	2.07	1.14	4.07	5-6
VIII A*	5.15	2.24	3.63	1.75	1.52	6.08	4-5
VIII B*	4.49	2.27	3.32	1.93	1.17	4.33	2-3
VIII C*	6.60	2.50	5.62	2.84	.98	2.80	2-3
VIII Average	5.51	1.75	4.20	1.76	1.31	5.70	4-5
IX A*	5.28	2.76	4.29	2.48	.99	2.91	5-6
IX B*	5.60	2.97	4.49	2.74	1.11	3.00	8-9
IX C*	5.94	2.77	4.99	2.42	.95	2.88	8-9
IX Average	5.58	2.09	4.70	1.76	.88	3.52	5-6
X A*	3.08	2.10	2.61	1.22	.47	2.24	6-7
X B*	4.91	3.06	3.58	2.43	1.33	3.80	4-5
X C*	4.62	2.93	3.10	1.85	1.52	5.07	3-4
X Average	4.23	2.13	3.05	1.29	1.18	5.62	4-5

* These response groups were used as probation signs.

cent of the two groups studied could be correctly placed by using six probation signs as the critical number of signs indicating probation. Seventy-eight per cent of the probation stu-

dents and 75 per cent of the non-probation students were so assigned by this method. (See Table 2.)

Another approach to the same problem was made through content or item analysis of the individual responses to the *Multiple Choice Rorschach Test*. This time, instead of analyzing the data for good or poor responses, the percentage of students choosing each of the 300 possible responses was compared.

TABLE 2
Number and Percent of Achievers and Non-achievers Falling Above and Below the "Cutting Point" on 19 Selected Harrower-Erickson Multiple Choice Response Groups

	Total			
	Non-Achievers		Achievers	
	No.	%	No.	%
6 or more Probation signs	124	78	23	25
Fewer than 6 Probation signs	34	22	70	75

TABLE 3
Multiple Choice Rorschach Responses Chosen More Frequently by Non-achievers than Achievers

Card Number, Group and Key Number	Response
II A 9	Red and black ink
II B 9	Red and black splotches
II C 9	Black and red paint
	An empty hole
IV C 9	Something squashed
	A frightening picture
V A 2	A moth
V B 6	A pelvis
V C 2	A bat or butterfly
VII C 9	A gray mess
IX A 9	Just spilt paint
IX C 9	Messy colors
IX C 10	Nothing at all
X B 8	A medical picture

Table 3 shows card number, identifying letter, and number of responses, which were chosen more frequently by probation than non-probation students. Table 4 lists the responses which were chosen significantly more frequently by non-probation than by probation students. It is seen from these two tables that some plates elicit more probation signs than others. For example, no response on either Card I or Card III appears to discriminate between probation and non-probation groups.

However, on all other plates there was at least one probation sign. The card most productive of probation signs was Card 2. On this card eight of the 30 possible responses were chosen significantly more frequently by one or the other of the two

TABLE 4
Multiple Choice Rorschach Responses Chosen More Frequently by Achievers than Non-achievers

Card Number Group and Key Number	Response
II A 1	Two clowns
II A 2	Two scottie dogs; two elephants
II B 2	Two bears rubbing noses
II C 1	Two witches
II C 2	Bears' heads
V C 1	A fan dancer
V C 4	An alligator's head; legs; a pair of pliers
VI A 3	Two kings' heads . . . ; a fur rug
VII A 1	Two women talking
VIII A 2	Two bears climbing
VIII B 2	Two animals climbing
VIII C 2	Frogs' heads; two beavers walking . . .
IX A 3	Sea horses; flowers; a candle
IX C 3	A tropical flower or orchid; lobsters; men's faces on the sides; a violin
IX C 8	An explosion; storm clouds at sunset
X B 3	Undersea pictures; a design for wallpaper
X C 2	Octopus and crabs

TABLE 5
Number and Percent of Non-achievers and Achievers Selecting Above and Below the Critical Number of Probation Signs on Harrower Multiple Choice Rorschach

	Total			
	Non-Achievers		Achievers	
	No.	%	No.	%
10 or more Probation signs	107	68	12	13
Fewer than 10 Probation signs	51	32	81	87
Female				
10 or more Probation signs	35	75	7	16
Fewer than 10 Probation signs	11	24	38	84
Male				
10 or more Probation signs	80	71	16	33
Fewer than 10 Probation signs	32	29	32	67

groups studied. Table 5 shows that by using item analysis of the responses approximately the same percentage of the non-achievers and achievers are correctly placed as by using the Harrower system of cutting between good and poor answers.

Using content analysis of the Multiple Choice Rorschach, 13 per cent false positives and 32 per cent false negatives resulted.

Results

As inconclusive and sketchy as this study is, there do appear to be some Rorschach interpretations that might give a picture of characteristics which are typical of the two groups:

Non-Achievers.—(a) Probation students as a group tend to show significantly more signs of dysphoria and anxiety; (b) oppositional tendencies were more frequent in the probation group; (c) color shock manifested by deviation in form and content was present; this is sometimes interpreted to indicate inefficient use of mental capacities or the presence of emotional disturbances without intellectual control; (d) there was lack of attention to details, and (e) vague, formless, whole answers were more frequent in this group.

Achievers.—(a) Non-probation students as a group tended to demonstrate greater control on the intellectual level (F+); (b) non-probation students show considerably more human movement responses, implying an easier identification with people, as well as a more stable inner life; (c) achievers appear more mature and adjusted in the emotional areas (this is revealed by their more frequent use of FC responses and lower frequency of anxiety and failure responses), and (d) good combinatory wholes were more numerous for the achievers. This is frequently interpreted to indicate the presence of abstract and theoretical intelligence. It is to be understood, of course, that these *group* differentiae will not necessarily apply to particular individuals in the respective groups.

Summary

The *Harrower Multiple Choice Rorschach Test* was administered to 158 probation and 93 non-probation students at the University of Georgia during the school year 1947-48. Pertinent findings were:

1. A comparison of the two groups showed statistically significant differences in 24 of the 30 response groups of the *Multiple Choice Rorschach Test*. In 29 of the 30 response groups the differences favored the non-probation group. In 22 of the 30,

the differences were significant at the 1 per cent level of confidence; in two additional response groups, differences were significant at the 5 per cent level of confidence.

2. A modification of the Harrower scheme for determining good and poor responses increased the discriminatory ability of the test.

3. An item analysis of *Multiple Choice Rorschach Test* responses of probation and non-probation students suggests the possibility of establishing, even more conclusively than do the present data, Rorschach patterns or signs which significantly differentiate between achievers and non-achievers. The fact that such differences in patterns exist would not in itself constitute sufficient evidence that a particular sign or pattern was causally related to achievement or non-achievement.

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QUANTIFICATION OF THE WECHSLER-BELLEVUE VOCABULARY SUB-TEST

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THE importance of the role assumed by vocabulary tests in mental testing is unquestioned. Such tests have frequently been evaluated and often used as the best single index of general intelligence. Various statistical analyses have established the major role played by verbal factors. The appearance of the vocabulary test in a scale for the measurement of general intelligence is almost a foregone conclusion.

In addition to these more widely recognized facts the use of the vocabulary as a basal index in the study of mental deterioration and other aberrations has become increasingly apparent. Psychologists using the vocabulary test in this way include Babcock (2), Capps (3), Schwartz (8), Davidson (4), Altman and Shakow (1), Simins (9), Rappaport (7) and others.

In general, the problem of scoring these vocabulary tests has been treated somewhat like the weather—everyone talks about it and is affected by it, but little has been done about it. A surprising paucity of information or research on the scoring problems of such tests presently exists.

Capps (3) pointed out the possibility of scoring errors in the present subjectively scored vocabulary tests, and used objectively scored vocabulary tests in the paper cited above. Yacorzynski (13), in a theoretical paper, discussed the possibility of qualitative deterioration in word definition among deteriorated patients which would be obscured by the gross scoring systems now employed. The implication was that deterioration ratios which use the vocabulary score as a basis for estimating deterioration may yield results which are a function of the scoring rather than of deterioration per se.

A third major exception noted by the authors was that of Green (5). In an unpublished Master's thesis, directed by Terman, she clearly demonstrated the qualitative differences between various definitions given to vocabulary items, and suggested a scoring method based on a quantitative weighting system. Green administered the Vocabulary Test of the New Revision of the Stanford-Binet to a representative sample of 718 subjects whose ages ranged from six to 84 years. Dividing the definitions into given response categories, e.g., synonym unmodified, special meaning, effect produced, etc., and matching these against C. A., Green was able to weight differentially the credit for each word on the basis of definition "typing." This weighting could be applied reliably and was shown to differentiate clearly between C.A. levels below 18 years of age. Terman said, however, ". . . the method did not prove to be practical." (11).

In general, the ability of the examiner to determine the quality of a definition and to determine its acceptability seems to have been taken as an innate "givenness" by most test constructors and administrators. There is little doubt that the present vocabulary scoring does make use of a certain type of qualitative judgment. For the *Wechsler-Bellevue Test* the administrator is told: "The general rule is that any recognized meaning of the word is acceptable, elegance of language and precision being disregarded. . . . poverty of content is penalized to some extent. When a subject seems to know vaguely what a word means his response is credited as only half right." (12). The following instructions are given to the administrator in scoring the *Stanford-Binet Vocabulary Test*: "In general the more abstract and more difficult the word the more rigid the scoring requirements. . . . Awkwardness of expression is disregarded." (11). Both recommend further "questioning" of the subject if the examiner is in doubt.

A point of departure for this paper might well be a statement made by Terman (10) in reference to his own vocabulary test (cited by Green in her paper), "We have not worked out a satisfactory method of scoring the quality of definitions in our vocabulary test, but these differences will be readily observed by the trained examiner." Our question may well be: "Will they, and, if so, how will they be treated?"

This paper specifically concerns itself with the "Quality" of the definitions of the Wechsler-Bellevue vocabulary words and the quantification of definitions of varying quality. Obviously there is a difference in the quality of such definitions of the vocabulary item *orange* as "eat it" and as "a nearly globose fruit, botanically a berry of an evergreen rutaceous tree." The question arises as to what is the qualitative difference between the definitions? Is one a "better" definition than the other, and, if so, how much better? Most important, there is the question of how such responses would be scored by different examiners if these qualitative differences were taken into account.

Purpose

The purposes of this paper are two-fold. First, an attempt has been made to determine the nature of judgments of the adequacy of typical definitions of the Wechsler-Bellevue vocabulary words by a fairly representative group of test administrators. Considered are (a) the agreement expressed by test administrators in rating definitions along a continuum of "goodness of definition," and (b) the extent to which different judges (test administrators) would rate a given definition as "acceptable" or "not acceptable." Secondly, this paper attempts to determine the nature of the distribution of the ratings of a large number of representative vocabulary definitions. Considered here are (a) the range of such definitions termed "acceptable" and (b) the distribution of these "acceptable" definitions.

Methodology

The purposes of this study necessitated as wide a coverage of possible responses to the vocabulary words as practical. In an attempt to achieve this, 314 Wechsler-Bellevue case records were obtained from the Psychology Clinic at the State University of Iowa. These records were of tests administered by students in a clinical practicum course. Of these, 286 records yielded verbatim reports as reported by the test administrators of responses to the vocabulary words. A survey of each record for the definition of each word was made and all "correct" responses (responses given credit by the test admin-

istrator) which differed in other than simple wording differences, were listed. These were then examined by the authors for obvious overlapping. The final number of responses for each vocabulary item is listed below.¹

Apple	13	Tint	30	Recede	23
Donkey	21	Armory	18	Affliction	37
Join	26	Fable	19	Pewter	20
Diamond	22	Brim	23	Ballast	18
Nuisance	23	Guillotine	22	Catacomb	23
Fur	28	Plural	16	Spangle	34
Cushion	26	Seclude	32	Espionage	22
Shilling	12	Nitroglycerine	17	Imminent	20
Gamble	24	Stanza	22	Mantis	5
Bacon	22	Microscope	24	Hara-Kiri	14
Nail	34	Vesper	22	Chattell	18
Cedar	13	Belfry	15	Dilatory	21
Amanuensis	7	Aseptic	14		
Proselyte	12	Flout	19		
Moiety	9	Traduce	3		

The use of actual case records, it was felt, would greatly reduce the likelihood of omitting definitions apt to be found in administering the test. In addition an attempt was made to extend the coverage by providing a space on the rating forms in order that raters could include definitions which occurred to them or which they had received in giving the test.

Certain limitations in this manner of selection of definitions should be noted. The population from which the items were selected showed a marked skew with a clustering around the higher IQ levels and one age group. The distributions were as follows:

IQ Levels of Selection Population		Age Levels of Selection Populations	
IQ	N	Age	N
140-150	14	30-over	22
130-139	90	28-29	10
120-129	114	26-27	20
110-119	57	24-25	32
100-109	15	22-23	48
90-99	6	20-21	97
80-89	3	18-19	76
70-79	1	16-17	6
		15-below	3

It is recognized that this population bias may have limited the number of "poor" responses which would be found in a

¹ Specific definitions used, and the resultant median and Q values, may be obtained in mimeographed form from Dr. Webb, Department of Psychology, Washington University, St. Louis, Mo.

population more widely distributed in regard to age and IQ. It is suggested that addition to the range would have only increased the number of "not acceptable" definitions and have had little effect on the range or distribution of "acceptable" definitions. This is supported by an informal survey of the few available children's records from the Psychology Clinic which added no items not already listed in the basic survey.

Another potential source of bias must be recognized. Some of the definitions were not verbatim and all were obtained in a "once removed" fashion, i.e., the responses were not necessarily the responses of the subject himself, but the recording of the response by the administrator. Thus, there is the possibility of bias, abbreviation or distortion. It is felt that this did not constitute an important source of bias since the responses on the scoring blanks were presumably those on which the scoring was done regardless of the exact response given.

The definitions so selected were rated along a continuum of goodness by a group of test administrators similar to and including some of those who had given the test from which the definitions were taken. The rating population consisted of 40 advanced students in psychology at the State University of Iowa. Of these, 36 were graduate students in psychology and four were seniors majoring in psychology. The majority of these students were in a clinical psychology curriculum. The following tabulation indicates the experience of the rating population in administering the Wechsler.

Administered 1-10 tests	5
Administered 10-50 tests	27
Administered more than 50 tests	8

The scaling method used was a graphic one. A line was conceived of as a continuum of absolute goodness of definition. It constituted an 11-point scale and the extremes of the continuum were designated as 0 and 10. These extremes were respectively described by the phrases "not acceptable" and "best possible." The intervening portion of the line was divided into equal parts which were numbered 1 through 9, but with no written descriptions attached.

Each vocabulary word was defined on the rating sheet before the definitions to be rated were listed. These definitions

were taken from the Wechsler-Bellevue Manual and could be conceived of as "best possible" definitions.

Since the Wechsler Vocabulary Test contains 42 words and each had a wide range of definitions to be rated, it was felt that fatigue and decreased motivation would be effective if the individual rater were required to rate all of the definitions. The list of vocabulary words was therefore divided into approximately half so that one half of the rating population rated one list and the other half the other list. Thus, twenty ratings on each definition were available. To make possible a comparison of the two groups of raters, definitions of four "overlap" words were put in both forms of the rating sheets. Two sets of rating forms were constructed with approximately equal numbers of "hard" and "easy" words (determined by Wechsler-Bellevue scale position) in each, and approximately equal numbers of definitions to be rated. To further reduce fatigue and motivation changes the raters were given several days to complete the ratings.

In order to avoid a constant rater tendency to rate at one end of the scale, the scale was reversed for each definition to be rated. The two forms of the scale were distributed at random to the rating population, written instructions were attached and were supplemented by oral directions.

Results

Scale Values.—Scale values were determined for each definition by computing the median rating given that definition. It was arbitrarily decided in advance that any definition receiving 50 per cent zero or "not acceptable" ratings by the judges would be considered "not acceptable." If over 50 per cent of the judges rated a definition as "acceptable," but some rated it as "not acceptable," the median would be computed for those who rated it as "acceptable" and this value reduced by multiplying it by 100 per cent minus the per cent of the judges who rated it acceptable. Thus if 40 per cent of the judges assigned a definition a "not acceptable" rating, its value determined as the median rating of the other judges would be reduced by 40 per cent.

Deviation of Ratings.—The quartile deviation (Q) was also determined for each definition rated. The Q value represents

the degree of rater agreement on the "goodness" of the definition. The *Q* indicates (a) the degree of agreement among the raters; and (b) the confidence one can put in the scale values so obtained in using them to study deterioration or for other applications. It is recognized that the magnitude of the *Q* may be influenced by the scale value. When scale values fall at or near the extremes of the continuum, the spread of raters judgments cannot be as great as when the scale values fall in the middle of the continuum.

Constant Errors.—Three raters were found consistently to underrate the goodness of the definitions in comparison with

TABLE 1
Median and Quartile Deviation Values of Definitions Rated Twice by the Same Judges

Definition	N = 20			
	First Rating Md	<i>Q</i>	Second Rating Md	<i>Q</i>
<i>Affliction</i> Something wrong with you	5.50	1.38	5.33	1.08
<i>Nuisance</i> Annoyance	7.75	.74	7.50	1.25
<i>Espionage</i> Trying to find out what others are doing	2.56	.75	3.34	1.56
<i>Caracomb</i> Tombs under churches	4.60	2.10	4.28	1.65
<i>Gamble</i> Play for money	5.25	1.46	5.54	1.53
<i>Seclude</i> Isolate	7.72	.80	7.93	.80

other raters. Correction for these raters, following Guilford (6), was made by computing the median of the ratings without these judges' ratings included, then determining the deviation of each of his ratings from the median, summing the deviations algebraically to obtain a correction factor and applying the corrections' factors to the respective ratings.

Reliability.—Three aspects of reliability are dealt with in this study: (a) the consistency of a single judge in rating and re-rating a given definition, (b) the agreement of two groups of judges in rating definitions, and (c) the agreement among a number of judges in rating a given definition along a continuum of goodness. This latter aspect involves the sub-problems of (1) agreement of ratings of acceptable definitions and (2) agreement on the acceptability of a given definition.

An attempt to deal with the first of these aspects of reliability

was made by including a few of the definitions twice in the rating sheets. This was done for six words which had a large number of definitions. One of the duplicate definitions was put near the beginning of the series of definitions, the other near the end, and on separate pages of the rating sheets whenever possible. It was felt that the duplication would not be noticed, and reports of judges following the completion of their ratings testify to the correctness of the assumption. Table 1 presents the median values and Q 's of the rating and re-rating of these duplicated definitions. The closeness of the medians would seem to suggest strongly individual rater reliability. This agreement may be spurious, however, due to the fact that a few raters may have "caught" one or more of the duplications.

It will be recalled that two groups of raters were used in an effort to reduce fatigue and loss of motivation. Each group rated definitions of about half of the vocabulary words. This imposes the second problem of reliability, i.e., how do these groups of judges agree on their ratings, and are stable quantitative measures of goodness of definition obtained from groups of raters? To answer these questions, the definitions of four of the Wechsler vocabulary words were included on both forms of the rating sheets. In Table 2 medians and Q 's of the ratings of the definitions of these four "overlap" words by the two sets of judges are shown.

It is seen that for the definitions of the word *pewter*, Group II tended to give higher ratings than did Group I. This tendency was also noted for the other vocabulary words, but is less pronounced. For Group I the "overlap" words were at the end of the rating sheet and for Group II about a third of the way through the list. The noted differences may indicate a lowering of ratings due to fatigue and/or group-rating differences. In general, however, it is felt that Table 2 may be interpreted as indicating that relatively stable quantitative ratings of vocabulary definitions may be obtained by group ratings.

The third aspect of rater agreement is that of the agreement of the judges in rating a given definition along the continuum of goodness. The statistical measure of the degree of agreement was the quartile deviation. Judgments were assumed to be rectangularly distributed within a scale-value interval (e.g.,

TABLE 2
Median and Quartile Value of the Two Groups of Judges Rating the Four Overlapping Words

Definition Number	N = 20		Group II	
	Md	Q	Md	Q
<i>Pewter</i>				
A	4.50	2.00	5.70	1.10
B	4.50	2.50	4.87	1.39
C	7.00	2.25	7.61	.70
D	4.68	1.75	6.19	.89
E	3.75	1.34	5.06	1.55
F	4.50	1.75	5.50	1.26
G	3.30	1.50	4.58	1.55
H	6.60	1.75	8.20	1.11
I	2.48	1.08	4.25	1.42
J	2.45	1.67	2.63	1.58
K	4.04	2.09	5.63	.96
L	4.34	2.25	6.07	1.19
M	1.94	2.05	2.25	1.99
N	2.70	1.34	4.37	1.61
O	6.00	2.15	6.75	2.11
P	2.70	1.06	2.83	1.42
Q	4.50	1.57	5.49	1.15
R	Not acceptable		1.32	1.98
S	4.00	2.13	5.45	.68
T	4.67	1.50	7.10	1.30
<i>Ballast</i>				
A	3.49	1.80	4.72	1.95
B	7.12	1.54	8.12	1.52
C	6.50	1.11	6.63	1.15
D	7.21	.97	7.40	1.10
E	4.44	2.07	6.12	2.03
F	4.41	1.20	5.37	1.99
G	3.50	1.83	5.37	1.51
H	Not acceptable		1.35	1.38
I	8.70	.92	7.83	1.00
J	8.07	1.57	8.06	1.09
K	5.18	2.15	6.06	.87
L	5.25	1.85	5.70	1.00
M	6.88	1.55	5.90	1.66
N	6.25	1.65	5.10	1.98
O	8.30	1.01	8.70	.88
P	8.08	1.46	8.12	1.04
Q	8.73	.91	8.45	1.12
R	7.50	1.41	7.21	1.04
<i>Catacomb</i>				
A	4.50	2.07	6.15	1.71
B	9.05	.69	9.36	.30
C	5.50	1.61	6.30	1.17
D	2.22	2.21	2.21	1.83
E	5.84	1.71	7.25	1.49
F	2.43	2.11	4.50	1.33
G	3.40	1.85	3.49	1.53
H	4.99	2.66	5.83	1.32
I	6.70	1.58	7.41	.87
J	5.51	2.34	5.70	.92
K	4.28	3.13	4.75	1.25
L	2.00	2.31	3.17	1.62
M	5.24	2.41	5.30	1.49

TABLE 2—Continued

Definition Number	N = 20		Group I		Group II	
		Md	Q	Md	Q	
N		8.08	1.32	8.08	.94	
O		2.56	1.72	2.85	1.30	
P		4.11	2.25	4.37	1.25	
Q		2.38	1.72	3.63	1.26	
R		.98	1.25	1.74	1.58	
S		4.75	2.63	5.37	2.15	
T		7.67	2.37	8.25	1.03	
U		2.10	2.29	2.10	1.47	
V		7.60	1.55	7.56	.81	
W		3.33	2.53	4.18	1.58	
X		7.40	1.63	7.08	1.34	
<i>Mantis</i>						
A		5.35	1.41	6.60	1.10	
B		4.13	1.61	5.25	1.47	
C		6.50	1.25	6.93	1.06	
D		8.86	.72	9.20	.69	
E		4.68	1.23	4.18	1.38	

TABLE 3
Distribution of the Magnitude of Q's

Interval	Number	Per cent
.25- .49	10	1.22
.50- .74	41	4.98
.75- .99	86	10.45
1.00-1.24	165	20.05
1.25-1.49	169	20.53
1.50-1.74	147	17.86
1.75-1.99	105	12.76
2.00-2.24	66	8.02
2.25-2.49	17	2.07
2.50-2.74	11	1.34
2.75-2.99	3	.36
3.00-3.24	2	.24
3.25-3.49	1	.12

4.00 to 4.99) and medians and Q's computed accordingly. Therefore, even though all judges rated a given definition at the same point on the continuum, it would have a Q value of .25 (i.e., perfect agreement would be expressed by a Q of .25). This method of computation must be noted in evaluating the obtained medians and Q's.

Table 3 indicates the frequency of various magnitudes of Q's obtained. The range of Q's was from .28, indicating almost perfect agreement to 3.28, the largest amount of disagreement obtained.

Interpretation as to "how good" the degree of rater agree-

ment obtained is, is made difficult by a lack of similar studies with which to compare these results. However, from an examination of the ratings given, the definitions presented in Table 3, and from the preceding tabulation, it would seem that relatively poor agreement characterized these judgments of goodness.

Even considering that perfect agreement is expressed by a Q of .25, it is seen that the median Q of all ratings is about 1.25, indicating that 50 per cent of the judges would rate a given definition within a spread of 2.50 points or less on the 11-point scale, and that 50 per cent would rate beyond this value, for half of the definitions. For the other 50 per cent of the definitions the degree of rater agreement would be even less. While it is impossible to know from these results how well judges would agree in using a three-point scale, as "full credit," "half credit," and "zero credit," it would seem that subjective scoring would lead to numerous discrepancies in scoring.

Further evidence for questioning the accuracy of rater judgment is found if a second aspect of inter-rater agreement is examined; agreement as to the acceptability or non-acceptability of definitions. The following tabulation shows the number of "not acceptable" ratings given definitions receiving various unweighted median values (total number of ratings per definition was 20).

Unweighted Median Range	Mean Number of "Not Acceptable" Ratings Given Each Definition
.00-.99	7.00
1.00-1.99	5.88
2.00-2.99	3.56
3.00-3.99	2.39
4.00-4.99	1.63
5.00-5.99	.81
6.00-6.99	.41
9.00-9.99	.08

The above tabulation shows that as the median values increase the number of "not acceptable" ratings decreases, indicating a general form of agreement on the part of the raters as to their evaluation of the goodness of the definition. However, it also points out the danger of subjective scoring of the vocabulary. The above tabulation may be interpreted as follows: When it is stated that twenty judges rated the defini-

tions, then definitions rated by 13 of the judges as acceptable, and given a median rating of .00 to .99, were rated "not acceptable" (on the average) by seven raters. Likewise, 18.3 judges found acceptable definitions which they rated between 4.00 and 4.99, and 1.63 judges on the average found these definitions "not acceptable." It is noted that definitions which 95 per cent of the judges rated halfway along the continuum of absolute goodness were rated "not acceptable" on the average by 5 per cent of the judges.

Summarizing the results on the problem of inter-rater agreement it appears that on an 11-point scale, agreement among

TABLE 4
Frequency Distribution of Median Values of Definitions

Scale Interval	Number	Per cent
— — .99	6	.73
1.00-1.99	21	2.55
2.00-2.99	63	7.65
3.00-3.99	98	11.91
4.00-4.99	121	14.70
5.00-5.99	140	17.01
6.00-6.99	136	16.52
7.00-7.99	129	15.67
8.00-8.99	80	9.72
9.00-9.50	29	3.52

raters as to the specific quality of a given definition is relatively low. In addition, a relatively low degree of agreement as to whether a given definition is an acceptable one or not was noted.

Other problems of rater agreement requiring study are (a) rate re-rate agreement over a longer period of time than used in this study, (b) agreement of judges with disparate training and (c) agreement in using quantified scales once constructed.

Distribution of Rated Definitions

A description of the median values are presented in Table 4. There would seem to be a true qualitative range of definitions of Wechsler-Bellevue vocabulary words as judged by the rating population. By the rating method used, the highest score obtainable would have been 9.50. The highest median actually obtained was 9.42, and .45 was the lowest acceptable definition value obtained. In addition, a number of definitions were rated as "not acceptable."

An internal examination of data seems to indicate that if the subject knew the difficult words at all he could give a good definition of them, while subjects might "know at" easy words without being able to define them well. If this is so there would be a greater qualitative spread of definitions of easy words than hard ones. Evidence for this is seen in the standard deviations of the median values of the first and last few words.

First Words	Sigma of Md values of definitions
Apple	2.14
Donkey	2.06
Join	2.16
Diamond	2.03
Fur	1.88
Cushion	2.68
Shilling	2.87
Last words	
Dilatory	1.11
Amanuensis	1.36
Proselyte	1.56
Moiety	1.85
Aseptic	1.84
Flout	1.85
Traduce	1.53

A plot of the distribution of the median values of the definitions of the first six vocabulary words is found to be nearly symmetrical with a mean slightly above 5. The distribution of the median values of the definitions of the last six words is markedly negatively skewed with a mean slightly above 6.5. The distribution of median values of definitions for the entire vocabulary is found to be almost symmetrical, a very slight negative skew being manifest. The mean for this distribution is about 5.5. The range of the distribution of medians for the last six words is small, but the range of the distribution of medians for the first six words is almost as great as that for the entire vocabulary distribution.

In all, the ratings suggest strongly that there exists a continuum of goodness of definitions and the distribution of definitions along this continuum is a symmetrical bell-shaped one. The range of this continuum is from near "not acceptable" to at or near "best possible." To give either full credit or no credit, or in some cases half credit, to definitions which form a true continuum, and not discrete or bi-modal distributions, would seem to obscure valuable data and to distort the obtained measure.

Summary and Conclusions

The data of this experiment suggest that there exists a continuum of definition "goodness" which for the Wechsler scale is approximately normal. The existence of such a continuum seems to indicate that much valuable data are at the present obscured by the rather crude "intuitive" scoring system presently utilized. An examination of the problem of rater agreement indicates that the level of goodness may be consistently established by *groups* of raters. The consistency of an individual rating was demonstrated. The data, however, further indicated considerable inter-rater variability. These facts together lend themselves to the suggestion of the desirability of a more objective scoring technique to reduce this individual variability. It was argued that the present system of rating does not meet this demand.

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THE UNIT IN INTERVIEW ANALYSIS

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RESEARCH into the dynamic interactions between counselor and client is a matter of recent history. Porter (10), who was probably the first to use recordings of actual interviews in such research, used each separate counselor speech as his unit of analysis, i.e., the counselor's remarks between two client speeches. Since single counselor or client speeches stand out structurally in a transcript of an interview, it seems quite logical that early approaches should have emphasized this unit in interview analysis.

Succeeding studies continued to use the single speech or some variation of it as a unit while other aspects of the dynamics of interview sessions were explored. Thus Snyder (15) analyzed the relationship of single counselor remarks to immediately succeeding client responses. In this and other studies (2, 3, 5, 11, 12, 16), however, some difficulty was encountered in using all of the words between two speeches of the other participant as a unit because such speeches often seem to contain several independent ideas. So these studies explored using thought units, sentences, clauses and even instances of silence as units of analysis. Of related interest is the use of similar units in analyzing non-transcript material (6, 8).

While these narrow units have produced quite useful research data, difficulty has frequently been encountered in their determination in actual interview analysis; each worker has usually found it necessary to develop an elaborate Manual of Directions for adjudicating the many points of decision. In addition, these single speech units have had other shortcomings. Thus Snyder, in his study of the relationship of counselor remarks to client responses, found it necessary to judge that each client idea in the immediate client speech was in response to every idea in the preceding counselor speech, when we know

in fact that a particular client response may be to one part of the counselor's remarks and not to another or may actually be in response to some previous speech or to some association of ideas within the client. Furthermore, it is difficult to use single speech units when studying the effectiveness of different types of counselor remarks. That is, it is difficult to judge reliably what is happening within a single speech, and while the client's next response indicates his immediate reaction, it does not furnish evidence of later effects. Thus a client may at first resist a counselor suggestion but later accept it or treat it as his own idea.

The entire interview is another obvious unit in analysis. An interview has meaningful structure in the minds of the counselor and client, and its beginning and end are clean cut. After reading an interview, judges can rate the general types of techniques used as well as the degree to which certain outcomes, e.g., rapport, insight, etc., are present. The largeness of this unit, however, tends to prevent an analysis of the moment-to-moment dynamics within the interview. That is, over-all ratings can indicate the general counseling plan used and whether the interview was effective or ineffective, but this approach cannot very well get at the dynamics of how it happened.

In an attempt both to increase the reliability of ratings and to get at the dynamics for entire interviews, various workers have tried classifying each remark during an interview and then using the average or the mode as the picture of the entire interview. While averaging many unreliable ratings of single remarks gives a more reliable picture of the pattern of techniques emphasized by a counselor, such a summation of immediate client responses does not provide a picture of the delayed effects of each counselor remark. Furthermore, an interview does not consist simply of a series of equivalent and therefore addable comments starting with "how-do-you-do" and ending with "good-bye"; there are episodes of small talk, of questioning the other for information, of making arrangements for next time, and, within the body of the interview, of discussing various topics which have quite different dynamics.

The importance of differentiating between different sections

of an interview is shown by an analysis of some data provided by Snyder on 48 interviews by six non-directive counselors (15). The writer combined Snyder's data on the individual remarks of six counselors and their clients' immediate responses; Chi Square and the Coefficient of Contingency were then computed for this master table. The Chi Square showed the distribution of client responses following each type of counselor remark deviated from the expected distribution far beyond the 1 per cent level of significance; this simply corroborated Snyder's findings on six separate tables for the six counselors. The degree of relationship existing is further indicated by computing the Coefficient of Contingency (interpreted similar to a correlation coefficient) for this distribution, i.e., .654. However, an inspection of the 154 cell-square contingencies in the table showed that 79 per cent of the chi square which entered into computing this coefficient was contributed by only three cells! The list below of the cells with the largest cell-square contingencies clearly shows that the most important dynamic found by this analysis is that the presence of special situations in the body of the interview markedly changes the course of the interview. Individual remarks from such differing areas probably should not be summated:

Counselor technique	Client response	Cell square contingencies
Ending interview	Ending interview	2434.1
Friendly discussion	Friendly discussion	1515.6
Questions	Answers to questions	1066.1
Structuring	Ask for advice or information	126.9
Unclassifiable	Unclassifiable	124.8
Rejection	Rejection	83.0
Clarification	Acceptance of clarification	77.6
Questions	Acceptance of clarification	-53.8 ¹
Clarification	Ending of interview	-50.4
Clarification	Answer to question	-43.0
Approval	Discussion of plans	40.7

The most obvious point in this list is the marked tendency of any special situation, e.g., ending interview, small talk, questioning, structuring speeches, and unclassifiable responses,

¹ A minus sign means that the particular client response is apt to occur less often than would be expected when that particular counselor technique is used.

to cause reasonable client responses but ones which differ from those normally made in the regular course of an interview. And for those techniques normally used in the body of the interview, e.g., clarification, approval, interpretation, urging, etc., there is a tendency not to result in these special situation responses. Differential client responses to different counselor techniques usually used in the core of an interview tend to be less significant than the effect of these special situations. Further evidence as to the existence of qualitatively different situations within the interview will be presented in a moment, but first let us complete our historical review of methods of interview analysis.

Not only have single speeches and the interview been used as units, but the entire interview series with a client also stands as a logical unit. Thus one can compare what happens between the counselor and client with the outcomes of the interview series. This can be done either by overall ratings of the series or by summing the individual counselor and client responses. The same criticism applies to using this latter method, however, as it was pointed out in discussing its use in the single interview.

There has also been particular interest in analyzing the changes which take place during an interview series. Here each interview has been taken as a unit or, because interview series differ in length, they have been divided into tenths (9, 11, 15). This latter method seems particularly subject to criticism since it obviously assumes that whatever is discussed within each tenth is comparable. That is, one tenth which happens to emphasize small talk, making arrangements, structuring speeches and questioning cannot be compared to another tenth which emphasizes therapy problems. And it may be questioned whether tenths which emphasize therapy problems should be compared to other tenths which emphasize study skill counseling or even vocational planning.

Each of the units that have been discussed has its functions and, of course, its limitations. It is the purpose of this paper to call attention to another type of unit which also has its place for certain types of interview analysis. This unit is the division of interviews according to topics of discussion. While this unit

answers many of the objections made above, it also has its limitations.

The unit is determined by having judges read an interview through and, whenever the major topic changes, make a mark. All of the material between these marks is treated as a unit. The analysis of Snyder's results above indicated that special situations of ending interviews, friendly discussion, questioning, and structuring speeches stand out as distinct sections within the interview. Furthermore, within the body of the interview, units would be marked off as the counselor or client shifts from a study skill problem to an emotional problem or a problem of vocational decision, etc.

Sherman (14) who first made a study of this type of unit found that they can be marked off as reliably as other units used in interview analysis. She found, for instance, that three judges reading a random sampling of interviews had a 95 per cent agreement as to the place of unit division. In the major instance where these judges disagreed,

One judge had divided one unit into two parts at a point of slight interruption in the main flow of conversation which almost immediately turned back to the point of discussion before the interruption. This difference in division would probably have made little, if any, change in the final rating of the units.

The discussion topic stands up as a unit on several bases. A client will have a particular attitude toward one topic and a different attitude toward another problem. While discussing any one topic, this attitude is apt to be maintained. Thus with an emotional problem, the client will feel hesitant to bring out much before the counselor, but with a study skill problem he will not have such hesitancy but will not know what is wrong with his skill. The counselor's role also varies from topic to topic, but within a given topic his attitude and manner are apt to be fairly constant. Similarly, in carrying on small talk, making arrangements, questioning for information, etc., the client and counselor will play rather consistent roles while the topic is being discussed, but these roles shift as the topic shifts.

In the discussion topic more than any other unit it seems

defensible to summate individual speeches because they all deal with a common subject and are uttered with more or less constant attitudes on the part of the participants. The most frequent or dominant technique used during the discussion topic can be called its "primary technique." This modal counselor technique has greater reliability than does the rating of any single counselor speech. Furthermore, studies can be made of patterns of secondary techniques used in conjunction with the primary counselor technique. Ratings of outcome can be more reliably made from a series of client speeches than from a single speech and the inclusion of all the client remarks during the unit enables a judge to determine if a counselor remark obtains some effect in succeeding remarks. And evidence of delayed results can be looked for when this particular topic recurs in later interviews. The discussion-topic unit also overcomes the objection made to dividing interview series into arbitrary proportions such as tenths. Dynamics during the interview series can be studied by comparing what happens when the same topic is discussed in succeeding interviews.

Further evidence that interviews often show important changes in dynamics with a change in topic is indicated by the tendency for the primary counseling technique to shift with change of topic. An analysis of seventy-eight interviews in a student personnel program showed that almost all of the 439 units emphasized one of four primary counseling techniques. These were, in order from the least to the greatest amount of leading: clarification, tentative analysis, interruption, and urging. What tendency is there in these interviews, then, for the counselor's primary technique to shift with a change in topic of discussion as compared to the variability which might be expected from the unreliability of this method of rating counselor method? Independent re-rating of the same units ten weeks apart (reliability) showed an 87 per cent agreement as to the primary technique used. On the other hand, pairs of units selected at random from within the same interview showed much less agreement. That is, these different units showed only 43 per cent agreement and the deviations when they did occur averaged 1.44 steps on the four-point scale mentioned above, i.e., from clarification to urging.

While our discussion has emphasized the consistency of pattern of response within a discussion topic as compared to variation with change of topic within the same interview, it should be noted that each discussion topic also tends to have a pattern of development. Thus Allen (1), making an analysis of 166 discussion units in 29 interviews, found that the development of each unit tended to go through four stages: statement of the problem, elaboration as to the nature of the problem, making of plans, and (sometimes) a summary. All of these steps were not present in every unit and there was a consistent tendency for the later steps not to be as well developed as the earlier steps. She did find, however, that the most effective units tended to have these four stages present; there was a correlation of .71 between degree of development of stage one and stage two, and a correlation of .61 between degree of development of stage two and stage three. The fact that the effective units of "non-directive" counselors also showed such four-stage development probably indicates that the pattern is in great part due to processes within the client rather than to counselor structuring; on the other hand, units were sometimes cut off in the middle when the counselor changed the subject to another topic he was thinking about.

The discussion-topic unit has been made the basis of a series of studies on interviews obtained in a student counseling program (13). In addition to the studies of Sherman (14) and Allen (1) mentioned above, Carnes (4) has studied the relationship of the amount of client talk to outcomes within discussion-topic units in the interview, and Elton (7) has studied the role of the division of responsibility between client and counselor in such units in the interview.

Summary

Various units, e.g., single speeches, whole interviews, tenths of an interview series, have been used in interview analyses. Each of these has its advantages for certain research purposes, but each has particular shortcomings if used for other types of analysis. This paper has suggested that the topic of discussion within an interview affords another meaningful unit. Data have been presented justifying its use.

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HOW VETERANS FEEL ABOUT VOCATIONAL ADVISEMENT¹

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THE Wayne University Guidance Center was established in October, 1945, as a part of the Educational Counseling Center, Division of Student Personnel, which was rendering vocational and educational counseling service to the student body. The program was instituted in conjunction with the Veterans Administration for the purpose of aiding veterans in the choice of their vocational goals. Guidance was available to all veterans who qualified under the provisions of Public Act Number 16, which provides for veterans with service-connected disabilities, and Public Law Number 346, which provides for those veterans who do not have a service-connected disability. From October 22, 1945, until January 1, 1946, one hundred and fifty veterans were advised at the Center. In 1946, the first full year of operation, the number rose to 1,720; in 1947, 1,589 veterans were counseled. These figures constitute only completed advisements under Public Act #16 or Public Law #346.

Perusal of current research literature on Veterans Guidance Programs reveals only a limited amount of material dealing with the attitudes of the veterans toward the results of completed advisement. Statistical analysis of goals selected, tests used, and training pursued are but one phase of the total guidance picture. The counselees' feelings and attitudes toward their advisement are important criteria of guidance success which cannot be ignored. Recognition of this fact was acknowledged by the Rochester Center in their study appearing in *The American Psychologist*, January, 1948 (2).

¹ The writers wish to express their gratitude to Dr. Doris Cline, Director of Wayne University Educational Counseling Center, for making this study possible and for the many helpful aids that she gave us in its preparation. Also, we wish to acknowledge our appreciation to the members of the staff for their many helpful commentaries.

Accordingly, an attitude survey was conducted by the Wayne University Guidance Center immediately upon completion of advisement. A Questionnaire was given to each veteran completing advisement by a person other than the counselor, and the veteran was requested to indicate his reactions toward counseling. The veteran had complete privacy, and the information was requested on a voluntary basis. There were no means of identifying the Questionnaire once it had been completed. Since the results of this survey were so highly favorable, it was decided that a more valid picture of attitudes could be determined if sufficient time had elapsed for the veteran to evaluate the results of his advisement. Thus, to avoid this obvious "halo effect," a study of Public Law #346 cases which had been completed prior to March 1, 1947, was instigated. Two factors influenced the choice of studying Public Law #346 veterans, rather than Public Act #16. First, it was believed that such individuals would have greater latitude in their vocational selection, and secondly, there appeared to be less information available on Public Law #346 veterans.

In the construction of the Questionnaire, objective data were necessary in order to evaluate more accurately the feelings and attitudes expressed by the veterans. Consequently, five questions were devoted to factual data and the other four to the measurement of the feelings and attitudes of the counselee. Emphasis was placed upon evaluating the goals followed in training; the relationship between goals and training; the goals recommended as a result of advisement; the level of progress attained in training; and whether or not training was leading toward the desired objective. Factors considered in the attitudinal phase of the Questionnaire included testing, occupational information, techniques of counseling, and decisions reached as a result of counseling.

The Questionnaire was mailed to 500 veterans who were selected by alphabetical sampling. The only stipulations for selection were that the veteran should have completed advisement prior to March 1, 1947, and that he should have completed counseling, under provisions of Public Law #346. Six weeks were allowed for the return of the Questionnaire. One hundred and forty-four veterans responded, yielding a total return of 28.8 per cent.

An investigation of the expressed goals of the one hundred and forty-four respondents showed that eight (5.5 per cent) were still undecided, and eleven (7.6 per cent) offered no comment. Fifty-two different occupations were stated as desired goals by the respondents. Eight occupations were listed by five or more individuals with engineering, accounting, and teaching the most frequently named.

In terms of the type of training being pursued, inspection of Table 1 shows that one hundred and seven veterans are pur-

TABLE 1
Training Being Pursued

Type of Training	Num- ber
Degree.....	107
Terminal.....	26
No Training.....	9
No Comment.....	2
Total.....	144

TABLE 2
Relationship of Training and Desired Occupational Goal

Leading Toward Occupational Goal	Num- ber
Yes.....	109
No.....	12
No Training.....	9
No Comment.....	14
Total.....	144

suing training at the degree level; twenty-six at less than degree level; and two offered no comment. It was encouraging to note that only nine (6.2 per cent) of the veterans responding had not followed a training program under Public Law #346. This figure is somewhat lower than that reported by Long and Hill (3) and by Brown (1) in their follow-up studies of veterans receiving advisement. However, it is desirable to point out that both of those studies included veterans falling under the jurisdiction of Public Act #16.

In obtaining the attitude of the veterans toward the training being pursued and its relationship toward their desired occupational goal, it was found that one hundred and nine (75.7

per cent) were pursuing training leading toward their desired goals. Twelve (8.3 per cent) stated that their training was not leading toward their desired vocational goal; nine (6.2 per cent) had never entered training; and fourteen (9.7 per cent) did not respond to this question. In an expanded study of the twelve negative responses it was found that six were taking training which at least was closely related to their stated goal.

Because of the various training programs and their diversified marking systems, the level of grades was indicated in four different ways. In order to present the material visually and to make the statistics more meaningful, these marking systems were converted to the one system of A, B, C, D, and E, as shown in Table 3.

TABLE 3
Grades Attained in Training

Grades	Number
A.....	9
B.....	63
C.....	55
D.....	5
E.....	0
No Comment.....	12
Total.....	144

It was found that only five (3.5 per cent) were doing "D" level work or less; fifty-five (38.2 per cent) were performing at the "C" level; sixty-three (43.7 per cent) were doing "B" level work; and nine (6.2 per cent) were performing at the "A" level. While these figures appear objective, it is necessary to point out that they represent the veterans' own appraisal of their progress level in training and that no verification of this attainment was made by the writers.

A separate analysis was made of individuals doing unsatisfactory work in their training programs or unsatisfactory work in terms of their stated vocational objective. The latter is illustrated by a pre-medical student doing "C" level work which would be insufficient to meet the minimum standards for acceptance into the professional school. It was found that seventeen persons fell in this category. Of the seventeen, ten were

following training in objectives not reached in advisement; five were training in objectives reached in counseling; and two were working in objectives reached as a result of the counseling program with the qualification that remedial work was indicated as a pre-requisite for successful completion of their course of study.

In the tabulation of this question dealing with the relationship between training and decisions reached during counseling, it was found that fifty-three (36.8 per cent) responded favorably to the relationship between training and counseling decisions; sixty-nine (47.9 per cent) felt negatively towards their training program and the counseling decisions; nine offered a favor-

TABLE 4
Relationship Between Training and Decisions Reached During Counseling

Training Followed as a Result of Decisions Reached During Counseling	Num- ber
Yes.....	53
No.....	69
Partially.....	9
No Comment.....	13
Total.....	144

able response with qualifications; and thirteen offered no comment. A study of the sixty-nine negative responses from factual data available in case files revealed some discrepancy. Figures based upon the case records showed that twenty-seven of the sixty-nine are definitely following objectives that were reached in advisement; four are following objectives closely related to those reached in counseling; five are pursuing training in an area which was one of the four objectives considered in the advisement; and one person was following training in an objective which was closely related to one of the four reached in advisement. In nine cases there were insufficient data to draw any valid conclusions, and in twenty-three instances there was no correlation between present training objectives and the recommended objectives.

A further breakdown of the twenty-three cases where there was no apparent correlation between training and objectives reached in counseling indicated that sixteen of the individuals

were doing successful work; six were doing unsatisfactory work in terms of their stated objective; one case was referred for mental hygiene treatment.

It was interesting to note the large numbers who expressed at least partial satisfaction with the decisions reached during counseling. One hundred and twenty-seven veterans (88.2 per cent) out of the one hundred and forty-four studied expressed either full or partial satisfaction with the decisions reached. Eleven (7.6 per cent) stated that they were not satisfied, and

TABLE 5
Counselees' Attitude Toward Decisions Reached During Counseling

Expressed Feelings	Num- ber
Decisions were very satisfactory.....	60
Decisions were partially satisfactory.....	67
Decisions were unsatisfactory.....	11
No comment.....	6
Total.....	144

TABLE 6
Counselees' Attitude Toward Knowledge of Their Abilities, Aptitudes, and Skills as a Result of Counseling

Had a Clearer Picture	Num- ber
Yes.....	102
No.....	35
No comment.....	7
Total.....	144

six (4.2 per cent) offered no comment. An investigation of the eleven cases who expressed dissatisfaction over the decisions reached, failed to reveal any significant reasons for their lack of satisfaction. Because the question is so highly subjective, the writers felt that caution should be exercised in commenting on this question, lest the interpretations express their viewpoints rather than those of the respondents.

In responding to this question, one hundred and two individuals (70.8 per cent) felt that they had a clearer insight into their abilities, aptitudes, and skills as a result of advisement; seven (4.9 per cent) offered no opinions, and thirty-five persons (24.3 per cent) stated that they did not have a clearer

picture as a result of the guidance offered. Case-history study of the thirty-five who felt they did not have a clear picture revealed that sixteen were in training as a result of objectives reached during counseling; thirteen were not following the agreed objectives; one person was following a closely related objective; one individual was taking training in one of the four discussed objectives; two had not reached any decision at the time of advisement; and in two cases there were insufficient data to arrive at any valid conclusion. Of this same group, five were referred for mental hygiene treatment. Also, only two of this group were attaining "D" level work, or less, in their training program according to their answers on the Questionnaire.

TABLE 7
Counselees' Attitude Toward Occupational Information

Expressed Feelings	Number
Completely Understood.....	35
Partially Understood.....	74
Not Understood at All.....	16
No Comment.....	19
Total.....	144

In an effort to detect any possible relationship between mental-ability level and the understanding of one's own aptitudes, abilities, and skills, a detailed study was made from the case histories of the thirty-five individuals who felt they did not have a clearer picture of their own abilities as a result of counseling. In each case the mental-ability score on either the *Ohio State Psychological Examination*, *California Short Form Test of Mental Maturity* or the *Otis Self-Administering Test of Mental Ability* were recorded. Comparable college norms were used throughout. Twenty-two of the thirty-five individuals obtained mental-ability test scores in the 70th percentile or above. It appeared that a lack of mental ability was not a determining factor in the counselees' ability to gain a clearer picture of their aptitude, ability, and skill as a result of the counseling situation.

No additional analysis was attempted on the question of the counselees' attitude toward occupational information obtained from the counselors other than a tabulation of responses as

shown in Table 7. It is felt that the figures represent an interesting commentary on the veterans' attitudes toward occupational information made available during the counseling situation. This point is expanded in the Recommendations and Conclusions section of this study.

Recommendations and Conclusions

As a result of the study it is felt that a clearer picture of the veterans' reaction to advisement has been established. Certain areas of weakness can be detected, but in the main it would appear that the program has been satisfactory and helpful in aiding veterans to select and to approach their vocational goals. More emphasis should be placed on improving vocational and job information. Literature which stipulates trends, opportunities, and salaries in any specific objective or job at best may be accepted as a general index. Information which applies nationally may not reveal a true picture of the local scene. One must predict future trends with qualifications, and place emphasis on variabilities which may affect drastic change.

It appears that a high percentage of the counselees are following successfully the objective reached at the Wayne University Guidance Center. The over-all picture is highly encouraging and establishes the program as being favorable. The reluctance of some veterans to credit the advisement might be indicative of some hostility toward the counseling situation. There is a need for further follow-up study in this area to bring to light the basic reasons for this attitude, and such obtained information should prove helpful in further counseling services.

Another factor that should be emphasized is the large percentage of veterans who take advantage of training. The majority are pursuing training at the degree level, and the most popular categories of training are those leading toward a definite profession.

One cannot ignore the many pertinent comments that were included in the replies. No attempt was made to tabulate or classify the numerous favorable remarks. An analysis of the more negative ones again stressed the need for greater occupational information. Sixteen individuals stated that the serv-

ices could be improved in this area. Of at least equal importance were the comments of eighteen persons who implied that more time could be spent in the entire advisement procedure. The urgency of the program and the numbers processed in 1946 and 1947 are felt to be, in part, the answer for the expression of dissatisfaction. As the quantitative needs diminish, it is hoped that greater time can be spent on individual problems.

The reasons for requesting advisement may be taken as a testimonial to the seriousness and sincerity with which the veterans approached the guidance program. In only three instances was advisement taken as a result of a forced situation or because of curiosity. Chief reasons given for the request were selection of curriculum (25 persons); selection of an occupation (39 persons); determination of abilities for a specific curriculum (20 persons); and appraisal of abilities (37 persons).

As the program passes into its third full year of operation, it would appear that every consideration should be given for its growth and encouragement. Changes should be recognized so that areas of weakness may be strengthened. Certainly no program dealing with individuals and their problems can be measured in terms of perfection, but rather on the basis of continuing improvement of services.

Finally, it should be noted that this study is representative of only a small cross-section of the total number of veterans advised. It is felt by the writers that it constitutes a fair sampling, but the gross returns would impose limitations upon the conclusions reached. No complete analysis could be accomplished without contacting and compiling data on each veteran who completed advisement at the center.

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A METHODOLOGICAL ANALYSIS OF THE INCONSISTENCY OF RESPONSE TO TEST ITEMS

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WHILE the consistency of psychological test scores in terms of reliability has been extensively studied, little research has been concerned with the consistency of response to separate test items. Consistency in the latter sense means responding to an item in the same way on different administrations of a test. Consideration of this factor raises certain questions. Can a test result for an extremely inconsistent individual be interpreted in the same way as a test score for an individual whose responses are consistent? Is a person who is inconsistent on one kind of test inconsistent on other tests? What personal behavioral factors and factors of the test situation influence inconsistency of response? If certain individuals are usually inconsistent and if this behavior is a function of certain known factors, may not this be of significance in test construction and interpretation? With such an orientation the writer set out to investigate the relationship of inconsistency of response to other behavioral factors. Previous studies indicated that consistency was related to intelligence and personality. The results of the present study led to conclusions which questioned the interpretations of the previous investigations on methodological grounds.

Literature

Three previous studies are directly pertinent to the present problem. Lentz (2) gave a conservatism questionnaire of 200 items to 57 students. The items consisted of statements of

¹The writer wishes to acknowledge his gratitude to Prof. D. G. Ellson who contributed many valuable suggestions in the course of the development of the analysis herein presented.

opinion with which the subject agreed or disagreed. The *Bernreuter Personality Inventory* was also given to 139 students. The tests were each given twice with approximately one month between the two administrations. Concerning personality and intelligence factors, Lentz reports an r of $-.34$, obtained between the conservatism change score, i.e., the number of changes in response from test to retest, and the *Otis Intelligence Test*. The latter correlated with the Personality Inventory change score yielded an r of $-.10$. The conservatism questionnaire change score showed an r of $-.28$ with the Personality Inventory introversion score and an r of $.14$ with the conservatism score. The Personality Inventory change score showed coefficients of $-.26$ with the Inventory dominance score, $.14$ with the neuroticism score, $.12$ with the introversion score and $-.08$ with the self-sufficiency score. A correlation of $.51$ was found between the conservatism change score and the proximity of the conservatism questionnaire total score to 100, i.e., the score one would most likely get by chance. Concerning this latter correlation the author writes,

Reasoning further we would say that whatever caused one's score to approach the chance amount also caused the number of changes to increase. Speaking somewhat more speculatively, we might say that the persons making the higher change scores are more indifferent to the test, lack appreciation of or sympathy with the objective method in this field, have less of the social scientific attitude, are less sincere while taking the test.

Lentz concludes that, "All told our effort to approach the causes and cures of changes via the correlations of change scores has not been very successful."

Neprash (3) gave the *Thurstone Personality Schedule* to three groups of students (total $N = 67$) and retested them with intervals of two, four and eight weeks respectively. Correlations ranging from $.40$ to $.60$ were reported between the subjects' neurotic scores on the test and their number of changes of response. Excluded from the number of changes were changes to or from a "?" response. The author writes,

As for the subjects themselves some indication was found that the responses of the less well-adjusted subjects tended to be more unreliable than those of the better-adjusted.... On their face the data do not show which is cause and which

is effect, but it may not be at all improbable that the high relationship found between unreliability and incidence of neurotic responses to items may be a consequence of the lesser stability of the neurotic subjects indicated by the coefficients of correlation cited. It would appear, however, that the resubmission of the schedule after some time has elapsed might be an additional aid in the identification of maladjusted subjects, if due regard were paid to the number of changes in response.

Pintner and Forlano (5) gave the *Aspects of Personality Inventory* to 100 fifth-grade children. The test is a questionnaire of 105 scored items. Each item requires the child to read a statement and then mark himself as "same" or "different." The test is divided into three subtests; an ascendance-submission test, an extrovert-introvert test, and a test of emotional stability. The Inventory was administered to the subjects four times with a two-week interval between test periods. A consistency of response score which consisted of the number of items answered the same way on the last three administrations as on the first administration of the test was determined for each subject on each subtest. The correlations of the consistency scores with the test scores (the average of the four trials) was $r = -.03$ for the ascendance-submission test, $r = .09$ for the extrovert-introvert test, and $r = .36$ for the emotional stability test. Concerning these correlation coefficients the authors write,

Evidently ascendent-submissive responses or extrovert-introvert responses are not differentiated by greater or less degrees of consistency. The submissive child is just as likely to be consistent (or inconsistent) as is the ascendent child; and likewise for the introvert and extrovert. The correlation of .36 for the E² test would seem to indicate a slight tendency for the more emotionally stable child to be slightly more consistent in his responses on the E test than the less emotionally stable child. The correlation is not high but it is high enough to suggest that a tendency in this direction exists.

In summary, it is to be pointed out for future reference that for the most part the correlation coefficients reported in the above studies were obtained by correlating the inconsistency or consistency scores of a test with the total scores of the same test.

* Emotional stability.

Procedure

In the present study three psychological tests were administered to a group of 179 college students. One month later the same tests were readministered to the same group. The final number of subjects for whom complete data were obtained was 135, 62 men and 73 women. Failure to take either the initial test or the retest accounted for practically all of the lost 44 subjects.

The number of items on which a subject changed his response was totaled and called an "inconsistency score." The tests used were an intelligence test, the *Personnel Test* (4), (an adaptation of the *Otis Self Administering Test of Mental Ability*), the *California Test of Personality* (1) and the *Occupational Interest Inventory* (6), (a preference type test in which the subject has to choose between one of two choices offered in a test item). For the intelligence test an inconsistency score was determined by counting the number of items which a subject answered correctly on the first administration of the test but incorrectly on the second or incorrectly the first time he took the test and correctly the second time. A change from one incorrect answer to another incorrect one was not counted as part of the inconsistency score. (If the latter was included, the intelligence test inconsistency score would be confused with guessing.) For the personality test an inconsistency score was determined by counting the number of changes from "yes" to "no" or vice versa from test to retest. The interest inventory inconsistency was determined by counting the number of changes in the choice of an item from test to retest. However, since a change in one part of an item also meant a change in the other part of the item, the interest inventory inconsistency score was twice as large as an intelligence or personality test inconsistency score of the same magnitude, i.e., indicating the same number of changes. The interest inventory inconsistency score was divided by two in order to make it comparable with the inconsistency scores of the other tests.

Results

The mean inconsistency scores and the mean per cent of items changed for each test are presented in Table 1. The mean

per cent of items changed on the different tests indicated no statistically significant differences between the amount of inconsistency on the tests. The correlation coefficients shown in Table 2 indicate that inconsistency of response on the different tests was not highly related. Two of the coefficients are statistically significant for the size of the experimental sample at approximately the 3 per cent level of confidence.

The inconsistency scores on the three tests were averaged to obtain an average inconsistency score for each individual. A

TABLE 1
Inconsistency of Response on Different Type Tests

	No. of Test Items	Inconsistency Score		Mean % of Items Changed
		Mean	S.D.	
Intelligence Test.....	50	6.06	3.62	12.17%
Personality Test.....	180	28.32	9.96	15.7%
Interest Inventory.....	120 pairs	18.74	7.15	15.6%

TABLE 2
The Intercorrelations of the Inconsistency Scores of Different Type Tests

	<i>r</i>
Intelligence Test vs Interest Inventory.....	.09
Intelligence Test vs Personality Test.....	.20
Interest Inventory vs Personality Test.....	.20

weighted average was computed equalizing the contribution of the three inconsistency scores. In order to determine the relationship of inconsistency to other behavioral measures the personality test adjustment scores and the intelligence test scores were correlated with the average inconsistency scores, yielding coefficients of $-.36$ and $-.48$ respectively. These correlations appeared to indicate that those individuals who received the lowest inconsistency scores, i.e., who were the most consistent, had the highest adjustment scores and the highest intelligence scores. However, it seemed possible that there might be a relationship between inconsistency of response on a test and the score on the same test, which would tend to make the above correlation coefficients spuriously high. In order to eliminate this, the same test inconsistency scores were excluded from the correlations of test scores with inconsistency score.

When this was done the correlation of intelligence score with the weighted average inconsistency score of the Personality Test and Interest Inventory dropped to $-.14$; the correlation of adjustment score with the weighted averaged inconsistency scores of the Intelligence Test and the Interest Inventory dropped to $-.04$. Both of the latter correlation coefficients are not statistically significant. With the same test excluded from the correlation then, intelligence and personality test scores showed little relationship to inconsistency of response. Furthermore a high degree of relationship between the inconsistency on a test and score on the same test was indicated by a correla-

TABLE 3
The Correlation (r) of Inconsistency Scores with Test Scores

	Average Inconsistency Score for the 3 Tests	Average Inconsistency Score for 2 Tests Omitting Same-Test	Same-Test Inconsistency Score
Intelligence Test Score.	$-.48$	$-.14$	$-.74$
Personality Test Score (Adjustment Score).	$-.36$	$-.04$	$-.44$

tion of $-.74$ between intelligence test inconsistency score and intelligence test score and by a correlation of $-.44$ between personality test inconsistency score and adjustment score. The data in the above paragraph are presented in Table 3.

Discussion

When the data of the present study were treated in the manner primarily employed by previous studies, i.e., correlating a test score with a measure of inconsistency which was derived from the same test to determine the behavioral correlates of inconsistency, similar results were obtained, i.e., inconsistency appeared to be related to intelligence and personality measures. However, it was found that when same-test inconsistency was omitted, when a test score was correlated with a measure of inconsistency obtained from other tests than itself, the relationship disappeared. The results suggest that the relationship between inconsistency score on a given test and total test score on the same test may be a spurious one. How could this relationship be produced?

The answer to the above question requires an analysis and interpretation of the nature of tests as measuring instruments. In psychophysical measurement as the discrimination of a stimulus becomes more difficult, i.e., as the individual's threshold is approached from either direction on the scale of measurement, his responses become less consistent. The threshold is defined as the point of greatest inconsistency of response. Psychological test items like the stimuli of psychophysical experiments can be considered as falling on a scale of difficulty of *discrimination* in the sense that some items are more or less difficult to make responses to than others. It is to be noted that "difficulty of response" as here used is not the same as the difficulty of an item corresponding to its scale position (the per cent of a group passing or failing it). An item may be very difficult in this latter sense but easy to respond to incorrectly or in a certain direction because it is far above the individual's threshold.

If test items are so considered it can be demonstrated that a spurious correlation between inconsistency and test score will result under certain conditions even when there is no true correlation between consistency and test score. Furthermore, as shall be indicated, it is possible to predict the size and sign of the correlation coefficient.

Let us assume a hypothetical test with (1) a rectangular distribution of items on a particular scale of measurement (as intelligence or a personality trait) and (2) a scale range adequate for the group being tested, i.e., items ranging from those which every subject passes to those which no subject passes. On such a test let us assume that a subject has a particular set of items at his threshold. At this point the difficulty of making a response would be maximum for him and he would exhibit a maximum inconsistency of response. As he responded to items which departed from the threshold in either direction his responses to them would be less and less inconsistent.

If we now consider three subjects who have different thresholds, the distribution of their inconsistency of response to the test items would be as shown in Figure I. For subject A most items would be above his threshold and most of his responses would be consistently incorrect (or in a certain direction).

Subject B would have approximately an equal number of items above and below his threshold and he would tend to answer 50 per cent of the test items in one direction and 50 per cent in the other direction. For subject C most items would be below his threshold and he would answer them consistently right.

From Figure I it can be seen that for the situation assumed, while the three subjects have different test scores their amount of inconsistency of response is the same. Consequently, there will be no correlation between amount of inconsistency and test score.

THE DISTRIBUTION OF INCONSISTENT RESPONSES FOR THREE SUBJECTS WITH DIFFERENT THRESHOLDS

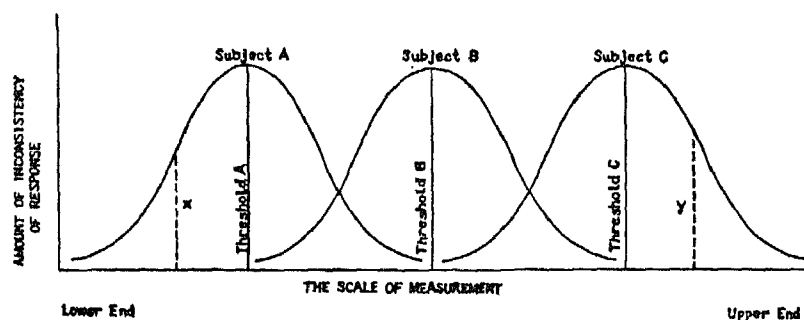


Figure I

Now let us assume another test, one in which the range of the test is inadequate for the group being tested. The scale would then be cut off, for example, at a point *y* as shown in Figure I. In this situation, subject C would not be able to exhibit as much inconsistency as either of the other two subjects. As subject C has the highest test score this would result in a *negative* correlation between inconsistency and test score. If the test range was cut off at point *x* there would be a *positive* correlation between inconsistency and test score. If the scale was cut off at both *x* and *y* there would be a zero product-moment correlation. In the latter situation there would be a curvilinear relationship which would be indicated by a correlation ratio (η) as inconsistency would be low for both subjects A and C and high for subject B.

Applying the above situations to specific kinds of psychological tests it follows that on a hypothetical (as defined) intelli-

gence test, all subjects would be equally inconsistent and no correlation would be found between inconsistency and intelligence score. If, however, the test was given to a group of bright or dull individuals for which it was of inadequate range, i.e., the scale of measurement was cut off at either the high or the low end, the nearer the threshold of an individual to the extremes of the scale the less would be his inconsistency. For the individuals in the bright group the nearer their thresholds to the high end of the scale, i.e., the higher their test scores, the lower their inconsistency scores (negative correlation). For the dull group subjects the lower their test scores, the lower their inconsistency scores (positive correlation). If the two groups were combined, the scale of measurement would be cut off at both ends and the correlation (r) between intelligence score and inconsistency score would tend toward zero but a curvilinear correlation would be indicated. These same relationships would hold for a personality test given to a group for which it was of adequate range and also to well-adjusted and poorly-adjusted groups for which its scale of measurement was of inadequate range.

In the light of the analysis of psychological tests here presented certain hypotheses can be made (assuming no true relationship between inconsistency and test score):

Hypothesis I: If the range of the scale of measurement of a test is adequate for a group being tested, the correlation (r) between inconsistency scores and total test score will be zero.

Hypothesis II: If the scale of measurement of a test is cut off at the upper end of the scale for a group being tested, the correlation (r) between inconsistency score and total test score will be in a negative direction. The size of the coefficient will increase as the mean score of the group approaches the highest score obtainable for the test concerned.

Hypothesis III: If the scale of measurement of a test is cut off at the lower end of the scale for a group being tested, the correlation (r) between inconsistency score and total test score will be in a positive direction. The size of the coefficient will increase as the mean score of the group approaches the lowest scores obtainable for the test concerned.

Hypothesis IV: If the scale of measurement of a test is cut

off at both the upper and lower ends of the scale for a group being tested, the correlation (r) between inconsistency score and total test score will tend toward zero. As the distribution of total test scores approaches symmetry, i.e., as the number of individuals with scores toward either extreme become equal, the product-moment coefficient will approach zero. (As the scale of measurement becomes smaller, i.e., as more of the scale is cut off at the ends, the correlation ratio (η) becomes larger.)

The results obtained from the present study could have been expected on the basis of Hypothesis II. The study yielded a correlation of $-.74$ between intelligence test inconsistency score and intelligence test score. Inspection of the distribution of test scores showed that 60 per cent of the subjects got at least 80 per cent of the items correct and 95.5 per cent of the subjects got at least 60 per cent of the items correct. For this group the scale of measurement was cut off at the upper end of the scale and the correlation between inconsistency score and test score is high and negative as expected from Hypothesis II.

The correlation between personality test inconsistency score and adjustment score was $-.44$. Sixteen per cent of the subjects answered at least 80 per cent of the items in the adjusted direction and 84 per cent of the subjects answered at least 60 per cent of the items in the adjusted direction. Again for this group the scale of measurement is cut off at the upper end. Hence, according to Hypothesis II the negative relationship is to be expected. Since more subjects got near-perfect intelligence scores than near-perfect adjustment scores, it follows on the basis of Hypothesis II that the higher correlation should have been obtained on the intelligence test.

How do the results of previous studies fit into the scheme here developed? If we assume that the tests employed in previous studies were not like our hypothetical test, then the hypotheses concerning tests with inadequate scale ranges are applicable in the following instances. Lentz (2) obtained a correlation of $.51$ between inconsistency of response to test items and a measure of the proximity of the test score to the score which would have been obtained by chance alone. A chance score (50 per cent of the items answered in one direction) would

be obtained by individuals whose thresholds are at the middle of the test scale. As has been indicated those individuals with thresholds in the middle of the scale (like subject B in Figure I) are able to show more inconsistency of response than individuals with scores toward the extremes of the scale of measurement. The latter persons are not able to exhibit as much inconsistency as the individuals with middle scores because for them the scale is cut off.

Neprash (3) reported a mean score of 46.3 on the *Thurstone Personality Schedule* for the subjects in his study. Since a score of 112 would be obtained by answering half of the test items in a neurotic direction, the group mean was well toward the low end of the test scale. Hence, on the basis of Hypothesis III, the coefficients of .40 and .60 Neprash reported when neurotic scores (the test scores) and the number of changed responses were correlated are expectedly high and positive. In this study a correlation of .76 was reported between the frequency of neurotic responses to an item and the inconsistency of response to it. This is in accordance with the present interpretation of tests. The group mean was toward the low end of the scale; thus, the items toward the low end were answered more in the neurotic direction than were items at the high end. As the items progressed toward the higher end and away from the group threshold, they would be answered with a decreasing number of responses in the neurotic direction. Consequently, a high positive correlation would result between frequency of neurotic responses to an item and the inconsistency of response to it.

The mean test scores for the four administrations of the *Aspects of Personality Inventory* in the Pintner and Forlano study (5) were 16.82 for the ascendance-submission test, 21.07 for the extroversion-introversion test and 26.79 for the emotional stability test. The possible range of scores on each of the tests was from 0 to 35. The correlation coefficients which were obtained when the test scores were correlated with consistency of response scores on each test agree with what would be expected from Hypotheses II and IV. The lowest coefficient, -.03, was obtained for the ascendance-submission test on which the mean score was in the middle of the test scale (Hypothesis

IV). The next highest coefficient, .09, was obtained for the extroversion-introversion test on which the group mean was three points above the middle score (Hypothesis II). The highest coefficient, .36, was obtained for the emotional stability test on which the mean score was nine points above the middle of the scale (Hypothesis II). It is to be noted that Pintner and Forlano dealt with consistency scores rather than inconsistency scores which accounts for the reversed sign of the coefficients.

In summary it can be said that on the basis of certain assumptions concerning the nature of psychological tests as measuring instruments, it has been possible to predict the size and sign of the correlation between inconsistency and test score for the present study and for previous studies where the necessary data were available. It has been shown that under certain conditions even if there was no correlation between inconsistency and test score, a correlation would nevertheless have been obtained. This finding throws doubt upon the results of previous studies which report inconsistency as a trait of behavior correlated with intelligence and personality factors.

Summary and Conclusions

In order to study inconsistency of response to test items, three psychological tests were given to a group of 135 subjects. The tests were re-administered to the same group one month later. A measure of inconsistency was determined for each subject. An analysis of the data indicated the following:

1. For the sample employed in this study there were no significant differences in the proportion of inconsistency of response on an intelligence test, a personality test and an interest inventory.
2. For the sample employed there was little relationship between inconsistency of response on the three kinds of tests.
3. An interpretation of psychological tests was developed which conceives of test items as points along a scale similar to the stimuli along a psychophysical scale. Within this framework inconsistency of a response to a test item varies with the position of that item above or below the threshold for the individual concerned.
4. On the basis of the above interpretation and with certain

reasonable assumptions, it was possible to predict the size and sign of spurious correlations between inconsistency and test score.

5. The possibility of such spurious correlations throws doubt on the results of previous studies which report relationships between inconsistency and intelligence and personality measures.

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PSYCHOLOGICAL COUNSELING IN A PUBLIC SCHOOL

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MANY schools are hesitant about introducing psychological counseling. There is a feeling that this service would be extremely expensive and that it would be difficult to get adequate staff and office accommodations. Those who foresee many difficulties are undoubtedly thinking of a complete, finished, well-established Psychological Center. This is an aim toward which a school might well be working, but because it is not possible to start with it in this finished condition there is no reason for not starting.

We, in Milwaukee, started psychological counseling in September of 1946 in an exceedingly simple fashion; we are still just in the beginning stages but we feel that enough has been accomplished so that we can see a well-established department in the not-too-distant future. Also, we feel that we have had many experiences in our first year which would be of value to other school systems and which might be an inspiration to them to get started immediately.

We started with one psychological Counselor. She was an experienced teacher, having taught all of the grades in state-graded schools, and having taught social studies in a Milwaukee high school for many years. During this time she had qualified herself to become an Advisement Counselor and had had the experience of setting up a new counseling system in one of our high schools. Through summer work and a leave of absence she further qualified herself for psychological counseling.

When she returned from her leave, she was assigned to her new task and immediately proceeded to do testing for the Department of Special Education, ascertaining Special B or C placement for children who were mentally retarded. Meanwhile, she gathered the necessary supply of testing materials and planned a procedure for making her services available to schools.

At their regular monthly meeting, the Counselor was presented to the Milwaukee Principals' Association. In a brief talk she outlined her fields of activity, explained the type of case she was equipped to handle, her method of referral and her plans for diagnosis and treatment.

Requests-for-Psychological-Services cards were distributed to each school:

REQUEST FOR PSYCHOLOGICAL COUNSELING

NAME.....

DATE OF BIRTH..... GRADE.....

REASON FOR REQUESTING STUDY:

1. ☐ VOCATIONAL STUDY 2. ☐ PLACEMENT IN SPECIAL CLASSES OR SCHOOL

3. ☐ ACADEMIC PROG- 4. ☐ COMPLETE CASE STUDY

RESS

BRIEF STATEMENT OF PROBLEM: (use reverse side if necessary)

Principal

School

DATE.....

These were purposely kept very simple and only a minimum of data were required in order not to burden the teacher with clerical detail. These cards were to be signed by the Principal, thus insuring that he knew the request had been made. Occasionally cases were referred directly by an Assistant Superintendent, usually when the child was making an original enrollment in the Milwaukee schools or was transferring to another school. So many of these cards were returned to the psychological Counselor that it was impossible for her to respond to all of them. In February another Counselor was added to the staff; she specialized in primary children. The Supervisor of Guidance and Welfare took a number of cases himself, particularly emergency cases that were brought directly to the Central Office and were counseled with immediately. By spring, principals stopped sending in their requests as they knew they could not be honored during the school year. There are, therefore, no statistics available as to the number of pupils for whom psychological counseling was desired. There are no figures available for the cases taken by the Supervisor of Guidance and Welfare.

Statistics kept by the two psychological Counselors reveal

455 cases handled, 327 boys and 128 girls. They were referred by:

Schools	
58 Elementary	1. Senior Trade
3 Junior High	(Other Trade Schools handled
7 Senior High	by Supervisor)
2 Junior Trade	
Parents: 7	

Their grade placements were:

Grade	Boys	Girls	Total
Kindergarten	26	11	37
1 through 6	185	60	245
7, 8 and 9	36	16	52
10, 11 and 12	18	12	30
Special	42	19	61
Unassigned	20	10	30

In age they ranged from 4 years, 6 months, to 18 years, 4 months, each extreme being represented by a boy. The range for girls was 5 years, 7 months, to 17 years, 10 months. The mean age was: boys, 11 years; girls, 10 years, 10 months; total, 11 years. The median age was boys, 10 years, 9 months; girls, 10 years, 8 months; total, 10 years, 8 months.

It was difficult to assay the reasons for referring. Frequently a most casual surface reason was given even when the teacher knew that she was searching for something more basic. At times a number of reasons were given. Some indication of what teachers and principals were seeking aid for is indicated by these statistics:

Reasons for Referring	Boys	Girls	Totals
Mental	91	58	149
Social	124	29	153
Emotional	50	16	66
Academic	144	47	191
Attendance	19	8	27
Others	13	4	17

Upon receipt of the card the psychological Counselor cleared the case to see if it were already known to the Welfare Department, the Department of Special Education, or the Milwaukee County Guidance Clinic. If such was the case, they were consulted to see if they wished to work further on the case or wanted the psychological Counselor to go ahead with it.

In most instances the Counselor saw the child in the school. This obviated the necessity of getting parent permission to

transfer the child to another place. It gave the child a feeling of security to be on his own ground, and it made the testing situation a natural part of the school routine which has habituated pupils to school-time conferences with doctor, nurse, principal, and so on, within their own building. The room used for the interview depended on the available accommodations—an unused classroom, a library, a teachers' room, a nurses' room, or even a supply room—any place where there would be no interruptions.

When she reported to the school, the Counselor asked for the briefest possible statement of the problem from the Principal—it was a case of classroom conduct, achievement out of step with chronological age, special placement, etc. This gave the Counselor an indication of what the school wanted without predisposing her toward the child. Usually the child was brought to her in the conference room by the teacher or principal and was introduced as in a social situation, the adult leaving as soon as possible.

Alone with the child, the Counselor established rapport and then proceeded. Sometimes an interview sufficed. Usually a *Stanford-Binet Revised L* or *M* was given and such other tests as seemed necessary. A summary of tests given indicates:

<i>Tests Given</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
Stanford-Binet	306	123	429
Personality	134	40	174
Achievement	13	7	20
Vocational—Interest	12	4	16
Aptitude	14	2	16

It is impossible to make a clear-cut statistical report of findings. The basic difficulty may be intelligence, which gives rise to emotional or social maladjustment; a physical disability which creates an emotional disturbance that has social effects; and so on. A crude division might be as follows:

<i>Maladjustment</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
Social	91	29	120
Emotional	114	38	152
Physical	17	14	31
Others	6	1	7

The intellectual capacities of those tested yield more readily to exact statistical recording:

<i>Level of Intelligence</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
Average I.Q. 90–110	100	32	132
Below 90 I.Q.	163	108	271
Above 110 I.Q.	28	12	40

The range of IQ's was 33 to 167, girls representing both extremes, boys ranging from 39 to 141. The mean IQ for boys was 88.4, girls 82.4, total 86.7. The median IQ for boys was 88, girls 80.9, total 86.

These findings were followed by definite action. If the testing was done in the school, the case was staffed with the Principal, and sometimes with the teacher, school-welfare Counselor, or parent as well. Some were automatically transferred to Special B or C classes or were recommended for exclusion. Where necessary, cases were referred to the County Guidance Clinic or Health Department for further study.

<i>Summary of Action</i>	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
Staffing with principal	149	65	214
with principal plus teacher	108	46	154
with principal plus S.W.D.	105	36	141
with principal plus parent	29	7	36
in Central Office	11	2	13
Exclusion	4	8	12
Special B or C	17	16	33
<i>Referral</i>			
County Guidance Clinic	12	4	16
Health Department	12	8	20
Others	27	3	30

No statistical summary can give a full picture of psychological counseling. To fully appreciate the magnificence of the service one must see a little girl freed of her worries, feeling the loving understanding of her teacher, happily meeting each day successfully; or a little boy who gradually gives up temper-tantrums, faces his own deficiencies, and strives to overcome them; or a teacher who, realizing she will not be penalized because a charge fails to meet grade standards, can now help each child to grow to the maximum of his ability; or a principal who is reassured in his policy of giving every pupil status; and, finally, the joy of the parent who is assured that his "limb of Satan" is a perfectly normal extrovert who needs help in finding socially accepted means of expression. Were Casimir and Delores and Miss Wythe and Mr. Grayson each to appear in this report, each would tell a different tale, but all would stress the sense of immeasurable relief. All would agree that the task is not done. Many of these people need further help. The Counselor must not be so pressed by new cases that she has no time to re-counsel or to bolster up those counseled previously. After treatment starts, there is usually a period of slump and discouragement.

ment when the Counselor should be able to go back immediately to help either child or teacher or parent.

Another service rendered by the psychological Counselors was responding to the desire of the public for more information on the Department of Guidance and Welfare and on child growth and development. A five weeks' course for mothers was conducted at the Emanuel L. Philipp School. No count was kept of faculty meetings, P.T.A.'s, church groups and service clubs which were addressed, nor of attendance at these, but several hundred people participated and many engagements have already been signed for next year.

One year of psychological counseling has indicated many developments which must come in the near future. First, of course, to service a city of this size there must be many more Counselors. The in-service training of teachers to recognize mental health problems before they become too far progressed must be emphasized. There should be a suite of offices including a conference room and a testing room available for each Counselor to take care of those cases which are brought into her office for counseling. There should be a city-wide testing program to screen out those cases which need attention. But all of this will come through a process of natural growth and as taxpayer-insistence grows.

A NOTE ON PEPINSKY'S ANALYSIS OF "VALIDITY" AND "RELIABILITY" OF SOCIOMETRIC DATA¹

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IN HER excellent paper outlining the errors of thinking that inhere in a direct application to sociometry of concepts customary (although not unchallenged) in psychometrics, Pepinsky has failed to develop one significant aspect of pertinent theory. This theoretical consideration serves to strengthen further the precautions urged by the author with reference to the concept of reliability.

Whatever means of determination are used, the concept of reliability is based on the idea that we are sampling from a universe of data, and that we wish to generalize, within known limits of error, from the sample data to the universe from which the sample is drawn. In psychometrics, the data are almost always measurements of a sample of behavior; in sociometry, by contrast, the data are almost always directly descriptive of the universe itself. Hence the only possibility of error that would invoke the concept of reliability would be clerical or mechanical errors in handling the data, rather than errors of random sampling. A concrete example is balloting in a public election. If the votes are properly counted, the universe of pertinent data has been completely measured. An inference as to what the voting behavior might have been the next day or week, or under different weather conditions, etc., has no relation to the "reliability" of the measurement. As Pepinsky points out, the sociological variables would then be changed, and we would have a different experiment.

¹ Pepinsky, Pauline Nichols. "The Meaning of 'Validity' and 'Reliability' as Applied to Sociometric Tests." *EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT*, IX, (1949), 39-50

ERRATUM

In the article entitled "The Meaning of 'Validity' and 'Reliability' as Applied to Sociometric Tests," by Pauline N. Pepinsky, which appeared in the Spring issue of this journal (1949), the phrase on page 40, line 6, which reads "his status (in the case of choices given)" should be revised to read "his status (in the case of choices received)."

THE REFLECTION OF PROBLEM CHANGES BY THE MOONEY PROBLEM CHECK LIST

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THE *Mooney Problem Check List, College Form*, covers a wide range of potential student problems. It was designed to enable the individual to state his problems by underlining relevant items, both for his own clarification, and as an aid to the counselor. It reveals only those problems that the individual is willing to admit or to discuss, and is not intended to be a depth technique for determining the "real problems" or "unconscious conflicts" of the individual. Its validity, therefore, depends upon the degree to which it reflects those problems that the individual is willing to discuss.

One approach to the validity of the Check List is in terms of the first summarizing question on page 5 of the Check List (1, 2) in which the individual indicates whether he feels that the items marked give a well-rounded picture of his problems. Another method would be to determine the degree to which the Check List reflects statements of problem changes from one administration to another, the statements of problem changes having been obtained by an independent measure. The latter method comprised the design of the present study.

Method

Members of five sections of a course in beginning Psychology served as subjects in the study, the sample representing a good cross-section of the undergraduate students at the university. At the end of the fourth week of the Winter Quarter, the subjects were asked to fill out the *Mooney Problem Check List, College Form*, and nine days later the Check List was readministered. After the Check Lists were collected, a special mimeographed form was distributed to the subjects on which they were asked to indicate whether any of their problems had

been solved, or whether any new problems had arisen during the previous nine-day period, and, if so, what those problems were. Thus, an independent statement of problem change was obtained to which changes in the way items were marked on the first and second administrations of the Check List, in the appropriate areas, could be related.

Results

In Table 1, frequencies are presented for those subjects who indicated problem changes and for those who indicated no problem changes. Of the 116 subjects, 35 indicated one or more problem changes. No sex differences were found, chi square having a value of .002 for one degree of freedom. In all, the subjects reported the occurrence of 28 new problems and the solution of 18 old problems. Each of 11 subjects reported two prob-

TABLE 1
Survey of Independent Statements of Problem Change

	Changes	No Changes	Total
Male	21	49	70
Female	14	32	46
Total	35	81	116

lem changes, and each of 24 subjects reported one problem change. The modal problem changes were concerned with changes in job status, changes in living quarters and receiving a low grade on an examination.

Three judges independently assigned each problem statement to the area of the *Mooney Problem Check List* to which it seemed to belong. There was agreement by all three judges on the allocation of 43 of the 46 problem statements, and there was majority agreement of two judges on the allocation of the other 3 problem statements. Table 2 contains the frequencies of occurrence of new problems, and solution of old problems according to areas to which they were allocated by the judges.

Both forms of the Check List were then examined for each individual to determine what changes, if any, had occurred in the marking of the items from one administration to the other, in the area corresponding to the statement of problem change. In instances where new problems had been indicated, the Check

TABLE 2
Frequencies of Occurrence of New Problems and Solution of Old Problems, by Areas

	HPD	FLE	SRA	SPR	PPR	CSM	HF	MR	ACW	FVE	CTP	Total
Male												
New	0	2	1	0	0	3	0	0	4	3	3	16
Old	1	3	0	0	0	2	3	0	1	1	0	11
Female												
New	1	1	1	0	0	1	2	1	2	0	3	12
Old	1	3	0	0	0	1	0	0	2	0	0	7
Total												
New	1	3	2	0	0	4	2	1	6	3	6	28
Old	2	6	0	0	0	3	3	0	3	1	0	18

TABLE 3
Illustrations of Independent Statements of Problem Changes, and Items Marked in the Corresponding Areas of the Mooney Problem Check List, College Form, for Each Administration

Independent Statement	Area	Items Marked in Check List	1st	2nd
"In hard courses I have to take, I have gone to my instructor, and he helped me very much."	CTP	Dull classes	x	
		Textbooks hard to understand	x	
		Being without a good college advisor		
		Classes too large	x	
		Forced to take courses I don't like	x	x
"Baby on way."	CSM	Insufficient knowledge about sex matters		x
"I had an unfair test in physics."	CTP	Having unfair tests		x
"He is of different religious beliefs than my own. He accuses me of being too prejudiced."	MR	Affected by religious or racial prejudice		x
		Confused in my religious beliefs		x
"My mother got better very rapidly."	HF	Sickness in the family	x	
		Living at home or too close to home		x
"I'm beginning to find myself swamped with things to do."		Not enough time for recreation		x
		Too little chance to enjoy art or music	x	x
		In too many student activities		x

TABLE 4
Reflection of Problem Changes by Items Marked in the Check List

Items Reflecting Problem	New Problem Reported	Old Problem Solved
Marked only first	0	16
Marked only second	22	0
Marked both times	5	2
Marked neither time	1	0
Total	28	18

Lists were examined to determine whether items pertinent to the problem had been marked in the second administration, and had not been marked in the first administration. In in-

stances where old problems had been reported solved, the Check Lists were examined to determine whether pertinent items had been marked in the first administration, and had not been marked in the second administration. Table 3 contains several representative illustrations of independent statements of problem change. The area of the Check List to which the statements were allocated is indicated, as well as all items in that area that were marked on the first and/or second administrations.

In Table 4, the relationship between the problem statements and the marking of appropriate items on the first and second administrations of the Check List is indicated. The independently stated problem was itself indicated on the Check List 97.8 per cent of the time, while the direction of change was reflected 82.6 per cent of the time. Thus the *Mooney Problem Check List, College Form*, is highly successful in reflecting problem changes that the individual is willing to admit, the problem changes being determined by an independent measure.

Summary

The *Mooney Problem Check List, College Form*, was administered twice to 116 subjects, with a nine-day interval between administrations. An independent statement of problem changes for this period was obtained from the subjects. A total of 46 problem changes were indicated by 35 of the subjects. An examination of corresponding changes in items marked from one administration of the Check List to the other indicates that the Check List is highly sensitive in reflecting those problem changes indicated by the independent measure. The problem itself was indicated on the Check List 97.8 per cent of the time, the direction of change being reflected 82.6 per cent of the time.

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FACTOR ANALYSIS II: A NOTE CONCERNING ROTATION OF AXES TO SIMPLE STRUCTURE

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THAT the basic graphical single-plane method for the rotation of factor axes (5, Chapt. X) contains serious shortcomings has been implicitly recognized, since a number of attempts have been made to develop an improved alternative. Two general methods have been employed in these efforts: (a) the inclusion of more information within a single graph by plotting in three dimensions (5, Chapt. VII) or by using extended vectors (4), or (b) the development of semi-analytical techniques (2, 8) to make the treatment of data more automatic. Most of these methods tend to contradict their purpose, in that they give up the relatively simple theoretical and computational scheme of the basic method. Only partial success has been reported in dealing directly with the principal drawbacks of the basic method, which are its slow convergence and frequent ambiguity of procedure; however, several distinct methods of relieving the routine computational burden per se have been described (1, 6, 7, 9, 10). It is the purpose of this note to report a further step in making simple structure rotation generally feasible.

Simple structure is defined, not by the pattern of high factor loadings which may exist, but by the distribution of negligible loadings between the variables and factors. In order for simple structure to be overdetermined (and scientifically convincing) each column of the factor matrix must contain more essentially zero entries than the number of factors—after eliminating from consideration all variables which lack any significant loading. Each hyperplane must, in addition, be distinct from every other. The problem of finding the best simple structure, if it exists, is thus resolved into the problem of finding the hyperplanes which will best determine it.

In the first place, therefore, it is necessary to possess some consistent objective criterion to judge the goodness of a hyperplane, and the probable improvement to be achieved by a given transformation of axes. A very convenient criterion to use is simply the number of vectors lying within a given small distance of the hyperplane, say within .10 or .15 at first, and later within .05 (1). (Other statistical criteria are more suitable for evaluating the goodness of a hyperplane finally found (3).) The criterion can be evaluated not only for the present position of a hyperplane, but also for any simple shift against another hyperplane when the graph with the other factor has been plotted. Increasing this criterion number will certainly lead toward final simplification of structure. That transformation may be considered to be best which leads to the greatest immediate increase in this index of goodness of hyperplane; however, the search for this shift has heretofore been a most tedious aspect of rotation.

What are the characteristics of graphs on which good shifts are to be found? They contain a relatively large number of vector termini not counted in either hyperplane by the criterion, some of which can be brought into a hyperplane by rotation. These graphs also contain a relatively large number of vector termini common to *both* hyperplanes, which constitute a pool of termini that cannot be lost from the hyperplanes by any rotation in the plane of the graph. These characteristics will tend to occur together, and either might be made the basis for determining which graphs are worthwhile plotting.

In practice, it has been found convenient, first, to count the actual number of variables held in common by each and every pair of hyperplanes. The number to be expected on the basis of chance is given by the formula,

$$P_{ij} = H_i H_j / n, \quad (1)$$

where H is the number of variables in a hyperplane and n is the total number of variables. Thus, H_i/n is the proportion of variables in the j th hyperplane, and this proportion of H_i would be expected to be common to both hyperplanes i and j . Graphs are then plotted and examined first for those combinations of factors which show the greatest excess over chance.

Graphs may be eliminated from consideration when shifts for both of their factors have already been discovered. Using this plan, it is initially unnecessary to plot many more graphs per rotation than the number of factors being rotated. Of course, if shifts are not found from the most likely graphs they must be sought on others, which will be plotted in the order of their likelihood of showing good shifts. Each over-all rotation may require a somewhat greater number, and rotation cannot terminate until a complete set of graphs has been prepared without discovering any shift.

When simple structure has been achieved, all of the factor pairs will tend to show less than the chance number of variables common to their two hyperplanes. This follows from the requirement that simple structure hyperplanes must be distinct; variables not in one hyperplane must tend to be in another. Accordingly, relatively few variables should be in neither of two hyperplanes, and, simultaneously, relatively few will be common to both. Of course, the joint hyperplane of two cooperative factors will yield less easily to this tendency.

The procedure is equally applicable whether orthogonal or oblique axes are being utilized. When using oblique factors, it is not generally necessary to compute the angles between the factors at every stage, for if any factors converge too closely their graph will be called for by the procedure.

Summary

A labor-saving device has been described to aid in the graphical single-plane technique for rotation of factor axes to simple structure. By counting the number of test-vector termini which are common to two hyperplanes, the probability of finding a desirable shift of axes from an actual plot of the factors can be estimated. The number of plots which must be made is thereby greatly reduced, and rotational efficiency is markedly increased.

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PERSONALITY TESTS AS A MEANS OF ENTRY FOR COUNSELING

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BATTERIES of tests are today being administered to students in colleges and universities throughout the land, and included in some of these batteries are personality tests. The purpose of a study recently carried out at the Boston University School of Education was to attempt (1) to determine whether or not the results of such personality tests could be used by the counselor as a means of entry into a more personalized counseling situation, and (2) to compare the effectiveness of the directive and nondirective approaches in the interpretation of these test results. The validity of any test results are based on many assumptions, and certainly two of these are that (1) the individual has answered the test to the best of his ability, and (2) while he was taking the test he was not under any unusual or atypical stress or strain. These assumptions are ridiculously simple, but it would seem that their very obviousness may have caused them to be overlooked by some of the test-happy test interpreters. The attitudes of many students taking group tests, as well as many of those who have been forcibly directed, for their own good, into taking individual tests, are often those of apathy and unconcern. The answering of the test is an unpleasant job that will be performed in the easiest possible manner, and this method of answering usually means that the student is not putting forth his maximum effort. It is also a difficult task to determine the stress and strain under which an individual may be laboring when he takes the test, and in the administration of tests to groups it would seem that every tester would at least be aware of individual differences. Deviation would be more easily determined in the individual situation, but no tester has any guarantee that the emotional state of the client, as he writes the test, is truly representative of his normal state.

There are too many educational institutions where tests are administered for, apparently, the sake of the test—or to keep the tester busy. There is no indication of any other purpose, and sometimes test results may be seen buried in dust—the students have never been given the results, and the results have never been used by the educators to benefit the students. Certainly, if tests are to be used as a personnel instrument, there should be some purpose behind their use, and there should be some evidence to offer as to the positive effects of their use.

Tests, like the human race, have their classes of respectability, so that intelligence tests such as the time-tested Binet are well up in the scale of acceptability, while others occupy a much lower rung in the ladder. Just as different kinds of the same type of tests have their levels of acceptability, so the different kinds of tests vary from almost complete acceptance to ridicule. The better tests of scholastic achievement and of aptitudes are generally accepted as valid, but when one steps into the delicate area of personality tests the noise of conflict may be heard for many miles.

There are many factors which cause personnel workers to be skeptical about the questionnaire type of personality tests such as the Bernreuter and the Bell. One may take an interest test and feel no personal disgrace if one is more interested in the social-service area rather than the mechanical area, or an aptitude test which indicates that one may have potentialities in the mechanical line but not in the field of music. One may even rationalize on an achievement test and blame the school or parents for one's poor showing, although this is not always, by any means, rationalization. When personality factors, however, are being tested, the individual is getting into an area where deviation is most socially unacceptable, and just how many individuals will answer correctly questions which pertain to the extent of their constipation or the degree to which mother loves father, we will never know.

One may question the value of giving any sort of tests to individuals who have not indicated that they want to be tested—that is, if the tests are to be used for counseling or some other positive purpose. Certainly the nondirective school of counselors believe that what is important to the client is also what is important to the counselor, and if the client is not will-

ing to accept the scientific evidence that the tests will lay before him, then there is little purpose in administering the tests. On the other hand, there are those personnel workers who will say. . . . "Well, we do, after all, have to find out something about the student so that we can know who needs counseling and who does not need it, and therefore it is essential that a test battery be administered to all students." The assumption in this somewhat directive statement is that counseling is something that is done by the counselor for the client, rather than a process which enables the client to do something for himself. Whatever one's feelings on this matter may be, however, it is a fact that personality tests are being administered as part of a total-test battery.

In the study being reported here, the *Bell Adjustment Inventory* was added to a battery of tests—Psychological, Interest, and English—that were administered to a group of 130 freshmen students. The students were invited by means of the bulletin board and an oral invitation in class to come to the Personnel Office to have the test results interpreted to them. This invitation was nothing more than that—it was indicated that the results were available, and the Personnel Office would be glad to interpret them if the students so desired. Wire recordings were made of the interpretation process, and the interpreters used two main techniques in attempting to determine the student reaction.

The first technique was directive in nature, and was used in approximately half of the cases. In many of these, however, the student soon showed a willingness to talk, and in such cases the counselor became nondirective. That is, the directiveness was continued only when the student showed no desire to elaborate, as is indicated in the example below. In this case, the counselor had just finished a factual presentation of the test results:

C: . . . Do you feel those are fairly accurate? (long pause) For example, the general order of the four items, indicating where you show the most and the least concern?

S: What does least concern mean?

C: Well, this would mean that in the four areas you showed the least in the way of probable worry in the home area,

and you would appear to be the most concerned in the health area . . .

S: Well, to tell the truth, I was never concerned about my health. . . . (laughs)

C: You never worried about it. . . .

S: No . . .

C: You don't feel that you have any troubles in that area?

S: Uh-huh. . . .

C: You can't think of any background or reason for. . . .

S: No . . . no idea at all. . . .

C: No history of disease or anything of that nature?

S: No (laughs).

C: Ah-huh. . . well, I guess that's about the way it stands, Don. . . .

This sort of approach would make all nondirective counselors squirm. The probing would make it seem that the counselor is attempting to do his best to get the client to admit that the test results are correct. This would appear to be completely futile at best, and dangerous at worst. If a client does not agree with a test result, there is no point in trying to force him to admit that the result is correct, and that he, verbally, at least, is wrong. There is little likelihood of positive results when the client battles the counselor attempting to prove to himself that the counselor is wrong and that he is right—as he may be.

When the nondirective technique was being used a rejection of the test results similar to that in Example 1 resulted in a brief exchange such as is given below:

The counselor had given the test results in an understandable fashion without interpretation.

(long silence)

C: . . . (long pause)

S: Oh, I don't know. These don't seem very accurate to me.

C: You don't feel that the indications of concern in these areas is correct. . . .

S: No, I don't. . . .

C: Uh-huh (pause) . . Well, that seems to be about all there is to this, Bill.

The counselor here believes that the client has the right to say as much or as little as he pleases, and in this case he expresses his desire to say little. The door is left open and the student may return. In the first example, on the other hand, the client showed a similar lack of desire to elaborate, but the counselor's attempt to pressure him into elaboration was obviously futile.

This nondirective technique sometimes resulted in a more moderate elaboration. For example, the counselor here has just finished a factual presentation of test results.

S: Well . . . (long pause)

C: (A brief summation of the results)

S: (pauses—then laughs) Ye . . . es . . . Yeh, those are right, I guess. At home everything goes on all right, so I don't think too much of what goes on around there. . . . (laughs). As far as the social is concerned—well, I do wonder where I stand at times. . . . (laughs)

C: Ah-huh . . . (pause) You feel that sometimes you're not too sure of where you're going, or—

S: Yeh—I mean—I've always been trying to figure out just what I wanted to do when I get out of here. . . .

C: Ah-huh. . . .

S: I never have been able to figure it out though . . .

C: You feel that you haven't come to any final answers. . . .

S: Well, this YW work does seem to be the thing all right—I mean, I have worked with girl scouts a lot, and this seems to be pretty closely associated with it—I really do like the work in scouting. . . .

C: Yeh . . . (pause) You sort of feel that it's the job for you. . . .

S: Yes . . . In New York I worked for awhile in a dentist's office as a technician, but the long grind was pretty dull and uninteresting. . . . (long pause)

C: Ah-huh . . . (long pause) Well, Mary, I guess that's about all there is there. . . .

Of the 130 students who were tested, 73 accepted the invitation and came to the Personnel Office for test interpretations.

Of the 73, 53 students generally agreed with the test results. Of these 53, 29 gave no elaboration (such as is indicated in

Example 2), 17 gave moderate elaboration (such as is indicated in Example 3), and 7 gave extensive elaboration—they went into much detail, covered much more ground than was indicated on the test, and came back for further contacts with the counselor. Of these same 53 who agreed with the test scores, 13 had all their percentile scores above the mid-point (national norms) while 40 had 1, 2, 3, or all 4 items below the mid-point. Of these 40, 17 had one item below the mid-point, 11 had 2 below the mid-point, 9 had 3 below the mid-point, and 3 had 4 below the mid-point. Of the 24 agreeing students who elaborated, only two had all four items rated above the mid-point.

Eighteen students disagreed with the test scores. Of these, 7 gave no elaboration, 9 gave moderate elaboration, and 2 gave extensive elaboration. All of the eighteen had test scores below the mid-point in one or more items—11 had one item below the mid-point, 3 had 2 items below the mid-point, and 3 had 3 items below the mid-point. All of the disagreeing students who elaborated had scores below the mid-point.

Approximately half of the students were treated in a directive fashion, the other half in a nondirective fashion. There was no conclusive statement as to the effectiveness of each method of approach since the counselor generally tended on those cases where he was deliberately using a directive technique to become nondirective if the client began to elaborate. The only specific statement which can be made in this regard is that in no case did the directive approach result in a reticent student beginning to elaborate. On the other hand, in five cases students who were treated in a nondirective fashion and came forth with moderate elaboration indicated a reticence at the beginning which may have resulted in no further elaboration if they had been treated directly. This, of course, is only surmise.

Of the 57 students who did not come to the Personnel Office, 23 were above the mid-point in all four areas while 34 were below the mid-point in one or more areas. Of these 34, 21 were below in 1 area, 7 were below in 2 areas, 2 were below in 3 areas and 4 were below in 4 areas.

The mid-point scores (percentile rankings based on national norms) of the 73 students who came for test interpretation

compared with the 57 students who did not come are as follows:

	Did Come	Did Not Come
Home	70	80
Social	85	80
Health	35	35
Emotion	70	80

Of the 18 students who were rated the lowest on the test (below the mid-point in 3 or 4 areas) 12 came to the Personnel Office, 6 did not come.

A General Summation of the Results

1. Slightly over one half of the students who were tested came to the Personnel Office to have the test results interpreted. From the standpoint of deviation there were no significant differences between the mid-point scores of those who came to the Personnel Office compared with those who did not come. However, approximately 60 per cent of the students in the "did not come" group were below the mid-point in one or more areas of the Bell, compared with about 80 per cent in the "did come" group. Probably the most interesting item in the mid-point scores was the extremely low rating in the health area in both groups.

2. Of the 18 students whose tests results indicated the possibility of most concern, 12 came to the Personnel Office.

3. The greatest elaboration came generally from those who showed the greatest deviation.

4. With the directive approach the nonelaborating students remained noncommittal, whereas in 5 cases reticent students did come forth with more elaboration when the nondirective method of approach was used. These students, of course, might have elaborated equally well if a directive approach had been used.

5. An interesting sidelight was that a number of the "disagreeing" but "elaborating" students, while stating that a low score on the health item was incorrect, came forth with the following information:

a) One had been a test pilot during the war, and his diet had been highly emphasized.

- b) One was a boy who was very much overweight.
- c) Three were star athletes concerned about their condition.
- d) One girl was a Christian Scientist.
- e) One had a mother who had died of cancer.
- f) One had a sister who had died of leukemia.
- g) One was a student whose father was very ill with what was believed to be cancer.

THE PERFORMANCE OF AMPUTEES ON MOTOR DEXTERITY TESTS¹

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This paper gives a report on the effectiveness of the prostheses which are currently being used by arm amputees who have gone through the Mare Island Amputation Center. Results on amputees who have taken approved *Veterans Administration Manual Dexterity Tests* are given. The study began under the direction of the author and was undertaken for the purpose of determining whether the current prostheses used by amputees were effective insofar as performing essential operations demanded by standard *Veterans Administration Motor Tests*. Since the Veterans Administration is concerned with the vocational rehabilitation of disabled veterans, such a study would have wide implications in rehabilitation in respect to the ability of arm amputees to compete with non-handicapped people in industry. Since the sample was small, the results are not meant to be by any means conclusive but merely as indicative of signs or trends of the ability of arm amputees to perform certain essential manual motor functions.

Subjects

The subjects used were arm amputees who were either hospitalized at the Mare Island Naval Hospital or who had been hospitalized and returned for further treatment. Seven (7) unilateral amputees were chosen and two (2) bilateral amputees

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who were German PW's and sent to this country for further observation, comparison, and further treatment. Their ages ranged from 19-28 years.

Types of Amputations and Prostheses

There are essentially four (4) types of arm amputees:

1. RAE—right above elbow
2. RBE—right below elbow
3. LAE—left above elbow
4. LBE—left below elbow

There are four (4) main types of arms made at the Mare Island Artificial Limb Shop. These are:

1. The Navy Fitch Arm. The Navy Fitch Arm is used on above-elbow amputees.
2. The Standard Arm. The Standard Arm is used on below-elbow amputees.
3. The Carpal-metacarpal Arm. These are worn by hand amputees, and are partial hands fitted usually at the carpal-metacarpal joint.
4. The Cosmetic Arm and Glove. These are used mainly for finger amputees and are merely simulated hands made from a material which simulates very closely a normal hand.

There are several modifications of these according to what is desired by the patient. The pronator-supinator suction cup, for example, is used on both the above-elbow and below-elbow arms. Functional hinges are used on the carpal-metacarpal and above-the-elbow arms. For purposes of clarity only the first four categories will be designated here.

The German PW's brought with them a pair of Sauerbruch arms with cineplastic motors; one had biceps-triceps, the other pectoral motors.

Description of Subjects

The subjects of this project, the type of amputation, the type of arm, and the length of time the patient had the arm are as follows:

Subject	Age	Type of Arm	Type of Amputation	Time Had Arm months
I	22	Carpal-metacarpal	R. Partial Hand	2½
II	19	Standard	LBE	2½
III	20	Standard	LBE	6½

Subject	Age	Type of Arm	Type of Amputation	Time Had Arm months
IV	22	Carpal-metacarpal	R. Partial Hand	2½
V	26	Navy Fitch	RAE	14
VI	22	Standard	RBE	1½
VII	22	Navy Fitch	RAE	10½
VIII	22	Fitch & Cineplastic	BAE (bilateral)	10½
IX	28	Navy Fitch Cineplastic	BAE (bilateral)	11½

Tests Used

The tests used were:

1. *Pennsylvania Bi-Manual Work Sample*
2. *Purdue Pegboard*
3. *Minnesota Rate of Manipulation Test*
4. *Minnesota Spatial Relations Test*

The *O'Connor Finger and Tweezer Dexterity Test* was originally attempted but the results were so poor that these tests were discarded.

1. The *Penn-Bi-Manual Work Sample* (3) was chosen because it "combines finger dexterity of both hands, gross movements of both arms, eye-hand coordination, bi-manual coordination, and gives indication of the individual's ability to use both hands in cooperation." Such a test would afford a good measure of the relative speed of operation of the prosthetic hand in conjunction with the normal hand or, in the case of bilateral amputees, of the two prosthetic arms together.

2. Only the placing section of the *Minnesota Rate of Manipulation Test* (5) was used. The *Minnesota Rate of Manipulation Test* was used because it measures muscular reaction time. This is a very unique trait which determines, to a high degree, native speed capacity. A comparison of the prosthetic hand with the normal hand in this test would give a valuable indication of the ability of amputees to perform certain tasks in shop and office work where use of tools and materials is needed and where speed is a very important factor.

3. The *Purdue Pegboard* (2) is a test of manipulative dexterity. Since it provides separate measurements of each hand, both hands together, and gross and fine movements of the hands, fingers, and arms, it is an excellent means of comparing the prosthetic hand and the normal hand which would provide a measurement of comparative dexterity needed in small assembly work.

4. The *Minnesota Spatial Relations Test* (1) is a test of general

mechanical ability and would give a strong indication of the ability of the prosthetic arm to do general mechanical work.

Testing Procedure and Results

Purdue Pegboard.—All parts of this test were given. Each subject was allowed to sit or stand while performing the test. Each part was given on both the prosthetic arm and the normal arm. On the assembly section, the prosthetic arm was used in conjunction with the normal arm. The three trial norms were used.

Analysis of Test Results.—The criterion of effectiveness and the measurement of the ability of the amputee to perform tasks demanded by the *Purdue Pegboard* and the other tests administered was a moot problem. It is indicated that no score in itself would have significance. Comparisons would have to be made between the normal hand and the prosthetic hand and those reaching the fiftieth percentile of the population upon whom the test was standardized. Since the raw scores of the prosthetic hands were too low to be measured in percentile equivalents, no comparisons could be made in percentiles, but merely between raw scores. The mean was taken of the sum of the three trials of each section of the test for all subjects and this was computed as a comparison between the prosthetic and normal hand. The "number times as slow" of the prosthetic hand was taken rather than the amount the normal hand was "as fast."

Where both hands were used, the results were compared with those reaching the 50th percentile upon whom the test was standardized (norms of *Purdue Pegboard*) which, in this case, were 456 veterans of the City College of New York Counseling Center. The reason that the fiftieth percentile was chosen was because this most nearly reaches the average group.

Minnesota Spatial Relations Test.—Likewise here a comparison was made between the scores on the prosthetic hand and the normal hand. During the performance of the test, the subject was permitted to turn the blocks over with the normal hand if he dropped the block and it turned on the reverse side. All of the subjects dropped at least one block. A comparison of the prosthetic hand and those reaching the mid-point of grade

C letter rating was also made. Grade C was taken as the average.

As a matter of interest, a comparison was made between the two types of arms worn by the German PW's and the American Navy Fitch arm, i.e., a comparison between the German arms and the American arm worn by the same subjects (the Germans used these arms interchangeably). It was found that on the left arm of one German, the U.S. arm was 25 per cent faster as measured by the *Minnesota Spatial Relations test*, and that on the other arm of this same PW, the German arm was 22 per cent faster on one arm, and on the other arm the German arm was 35 per cent faster.

Minnesota Rate of Manipulation Test.—Likewise here a comparison was made between the normal hand and the prosthetic hand in respect to placing the blocks in their proper slots. The turning section of the test was not used because very few of the subjects could pronate or supinate sufficiently to turn the blocks.

Practice Effect.—The *Minnesota Rate of Manipulation Test* by its very nature, gave an indication of the effect of practice on performance. Because the same material was used on four successive trials, information might be gleaned on the effect of practice in performing the same task. The ideal situation would be where the same tests were used repeatedly over a spaced period of time, but time limitations precluded such an attempt. Eighty-five per cent of the subjects tended to get better from the first to the fourth trial while 15 per cent got worse. The range was from a decrease of 63 seconds to an increase of 184 seconds. These data are very significant inasmuch as practice and fatigue elements tend to neutralize one another, but it appears that the effect of practice has a very potent effect on muscular reaction time where a prosthetic arm was used, and seems to overshadow the effect of fatigue.

Pennsylvania Bi-Manual Test.—Instructions were that the subjects grasp the nut with the normal hand. Here, again, the comparison was made with those reaching the 50th percentile.

Results.—All of the tests except the *Purdue Pegboard* show relatively little difference between the normal hand and the

prosthetic hand. As was stated in the beginning of this paper, the results here are only indications of trends. The very fact, however, that arm amputees can perform the operations demanded by these motor dexterity tests are of significance. Such results would seem to indicate to employers that arm amputees are able to perform tasks ordinarily thought of as extremely difficult or impossible.

TABLE I
Summary of Data

Test			Mean of Subjects Normal Arm	Mean of Subjects Prosthetic Arm	Comparison of Means of Pros- thetic and Normal Arm	Medians of Subjects and Normal Arm	Medians of Sub- jects Prosthetic Arm	Com- pari- son of Means Pros- thetic Normal Arm
Purdue Pegboard			10.8	1	10.8	10.4	1	10.4
			Comparison of Prosthetic Arm and Those Reaching 50 Per- centile					
			Assembly	mean	7.3			
				median	6			
			Both	mean	7.3			
				median	10.5			
Minnesota Spatial Rela- tions			1019"	2016"	1.9	854"	1828"	2.1
			Comparison of Prosthetic Arm and Those Reaching 50 Per- centile					
			mean	2.1		(Grade C Rating)		
			median	2.3				
Minnesota Rate of Manip- ulation			227"	559"	2.4	250"	503"	2.0
			Comparison of Prosthetic Arm and Those Reaching 50 Per- centile					
			mean	2.2				
			median	2.2				
Penn Bi- Manual			Comparison of Prosthetic Arm and Those Reaching 50 Percentile					
			mean Assembly	3.0	mean Disassembly	2.0		
			median Assembly	2.5	median Disassembly	3.0		

Large manufacturing companies have started recruitment campaigns for amputees, not on the basis of pity, but because hitherto unthought-of skills and abilities have been demonstrated. On a national basis (4), amputees with the use of one arm have entered such occupations as carpenter, electrical repairman, floor assembler, pipe-fitter, combination welder, tool-grinder operator, hand saw filer, tool maker, turret lathe

operator, arc welder, shipping clerk, electric bridge crane operator, truck crane operator, and stranding machine operator. Amputees who have lost both arms have become laborers, machinists II, structural steel workers, job setters II, laborers, process (machine shop), sub-assemblers I, and turret lathe operators. A partial list of occupations of veteran arm amputees in northern California are: carpenter, linotype operator, clerk, student physicist, fur trapper, storekeeper (civilian) in Navy, landscape artist (using prosthetic arm for painting), chicken rancher, construction foreman, heavy equipment salesman, mailman, and elevator operator.

In the recent report by the Bureau of Labor Statistics on the *Performance of Physically Impaired Workers in Manufacturing Industries* (4), the data available with respect to the subject of the prosthetic aid used and its effect on performance in industry are too fragmentary to be of any significance. However, a recent report of the Director of Training at the Columbia Steel Company in Pittsburg, California, corroborates the result of this project (many of the amputees hired there were subjects of this experiment). The work output involving manual motor dexterity of the arm amputees has in many cases equalled and in some cases exceeded that of the "normal" employees.

Summary.—Nine arm amputees, seven unilateral and two bilateral, were given four standard *Veterans Administration Motor Dexterity Tests*, the *Purdue Pegboard*, the *Minnesota Rate of Manipulation*, the *Minnesota Spatial Relations*, and the *Penn-Bimanual Work Sample*. Comparisons were made between the means and medians of the group on the normal and prosthetic arm, and with the score of the 50th percentile on whom the test was standardized. Results of the comparison between the normal and prosthetic arm show that the prosthetic arms compare favorably with the normal arms with respect to motor dexterity with the exception of the *Purdue Pegboard*. The results are corroborated by manual work output of amputees at the Columbia Steel Company, Pittsburg, Cal.

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A GRAPHIC SOLUTION OF MULTIPLE AND PARTIAL CORRELATION COEFFICIENTS FOR THREE VARIABLE PROBLEMS¹

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TRIGONOMETRIC representation of correlation relationships may be both useful and instructive.

In the discussion that follows: " $r_{ab, c}$," will denote the partial correlation coefficient between variables a and b with variable c held constant.

" $R_{a, bc}$," will denote the multiple correlation coefficients between variable a and the combined effects of variables b and c . In terms of zero order correlation coefficients:

$$r_{ab, c} = \frac{r_{ab} - r_{bc}r_{ac}}{\sqrt{1 - r_{bc}^2} \sqrt{1 - r_{ac}^2}} \quad \text{and} \quad R_{a, bc}^2 = \frac{r_{ab}^2 + r_{ac}^2 - 2r_{ab}r_{ac}r_{bc}}{1 - r_{bc}^2}$$

It can be shown (1,2,4) that if a spherical triangle (Fig. I) is constructed so that:

$$r_{12} = \cos a^*$$

$$r_{13} = \cos b^*$$

$$r_{23} = \cos c^*$$

then the following relationships hold true:

The cosine of the spherical angle $A = r_{12,3}$

The cosine of the spherical angle $B = r_{13,2}$

The cosine of the spherical angle $C = r_{23,1}$

The cosine of the altitude from C on $AB = R_{1,23}$

The cosine of the altitude from B on $AC = R_{2,13}$

The cosine of the altitude from A on $BC = R_{3,12}$

¹ This paper is based on part of a paper submitted in June, 1941, to Purdue University in partial fulfillment of the requirements of a Master of Science degree in Psychology. The thesis was directed by Dr. E. Lowell Kelly. The drawings in the present paper were adapted from the original manuscript by Mr. Irving Sherman of Purdue University.

* a , b , and c are used here as the angular measure of the arcs indicated.

² Now with the U. S. Civil Service Commission.

Multiple Correlation Coefficients

The multiple correlation coefficients can be easily determined by the reading of the angular values, or their cosine equivalents, of altitudes taken upon the three sides of the spherical triangle. This may best be done with a strip calibrated as described on page 776.

Partial Correlation Coefficients

It is possible to measure the vertex angles (or their cosines) of the spherical triangle directly, but this requires considerable effort in the construction of equipment. Making use of the

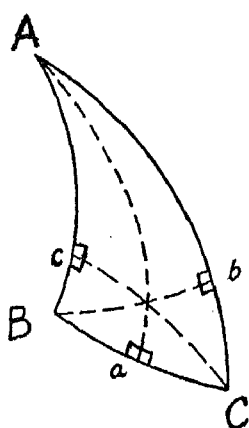


Fig. I

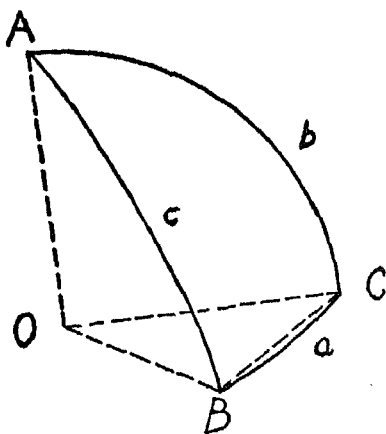


Fig. II

following relationship, we can lessen the complexity of the preparations for the graphical determination (Fig. II).

From any point A on a sphere O , 90° arcs c and b of great circles AB and AC are drawn. An arc between the points B and C is drawn by tracing a flexible straight edge held rigidly against the surface of the sphere and connecting points B and C . Angle A can be shown to be equal to arc a (in angular measurement) (2).

The implications of this relationship are rather obvious, i.e., if, instead of measuring directly an angle, e.g., A (Fig. I or II), between two arcs of great circles, we extend the arcs determining this angle to 90° , the arc of the great circle passing through the limits of their extensions equals the angle at the vertex

(here A). The arc in question is determined by a flexible edge describing the shortest arc between the limits of the extension (e.g., B and C in Fig. II). The flexible edge has but to lie flush with the surface of the sphere between the two points involved to describe this shortest arc.

The following figure is a guide to the whole process of determination of the multiple and partial correlation coefficients.

$$AL = AF = BJ = BH = CI = CG = 90^\circ$$

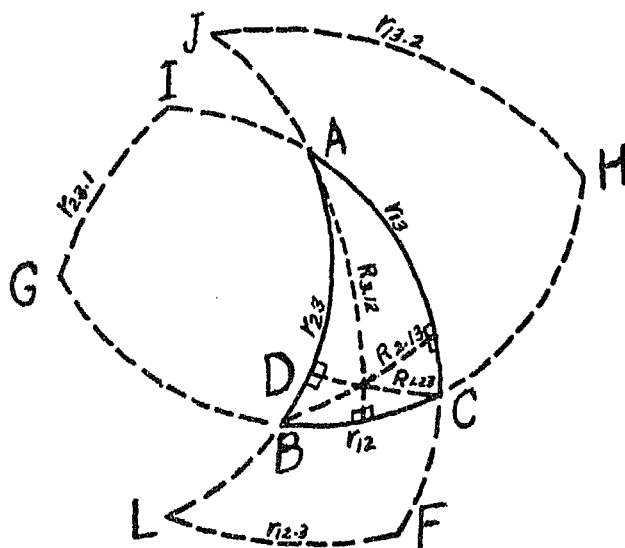


Fig. III

Practical Procedure

The author (*op. cit.*) has given two methods of procedure, one involving the use of pins and strings in a manner analogous to the use of these materials in factor analysis (3). The other method, to be presented here, is somewhat easier and probably more accurate although involving the construction of a simple piece of equipment.

Let us conceive of a cylinder open on one end with an inner perimeter equal to the circumference of a great circle of a given sphere. The height of the cylinder is equal to the radius of a great circle of that sphere.

If the sphere is fitted snugly into this cylinder, the upper

inner perimeter of the cylinder will describe a great circle of that sphere on the sphere, no matter what the exact position of the sphere is in the cylinder.

A word here is in order about materials. The author has used a number 6 tin can (cut off at the appropriate height) and a 6" ball carrying a flat white paint coating. A larger sphere and cylinder and a black surface to be marked with chalk would be somewhat better.³

Two strips should each be made up as follows: Take a strip of paper of from three-eighths to one-half of an inch in width. Mark off on this strip a distance equal to half the circumference of a great circle of the sphere. Divide this distance into 180 parts to represent 180 degrees. On the same strip of paper mark off the cosines of the angles indicated on the strip. These cosine values, like correlation coefficients, will of course run from $+1.00$ at 0 degrees, through 0 at 90 degrees to -1.00 at 180 degrees. This strip is now ready for use. It will become obvious to the reader that in actual operation the strip need not have indicated the angle values of the cosines.

Paste one of the strips around the outside of the top perimeter of the cylinder. (This strip will be referred to hereafter as "the fixed strip.")

Label any point on the sphere "A." Rest the sphere in the open end of the cylinder with the " $+1.00$ " (the cosine value of an angle of zero degrees) of the fixed strip at "A." At the point on the fixed strip corresponding to r_{23} mark "B" on the sphere. Draw AB along the edge of the cylinder, continuing this arc to L so that $AL = 90^\circ$.

Still keeping point A of the sphere at the " $+1.00$ " of the fixed strip, move the arc ABL away from the edge of the cylinder. Keeping the sphere always snug in the cylinder, note the point (mentally or overtly) on the fixed strip which corresponds to r_{13} . With the " $+1.00$ " of the second (movable) strip at point B on the sphere and held snugly against the surface, move the sphere about until the point on the movable strip corresponding to r_{12} is superimposed on the point on the fixed strip corresponding to r_{13} . Label this point C on the sphere.

³ A small hole should be punched in the bottom of the can to allow air to escape.

The sides BC and AC of the required spherical triangle may be readily drawn by connecting A to C along the edge of the cylinder with the sphere at rest, and B to C in like fashion.

AB , BC , and AC should be extended so that, as indicated in Fig. VI:

$AL = AF = B\tilde{Y} = BH = CI = CG = 90^\circ$ (or from $+1$ to 0 or -1 to 0 on the strip).

This may best be accomplished by extending these sides the required amount along the perimeter of the cylinder at the same time that the sides of the spherical triangle are drawn. Move the sphere around in the cylinder until point F of Fig. VI is at

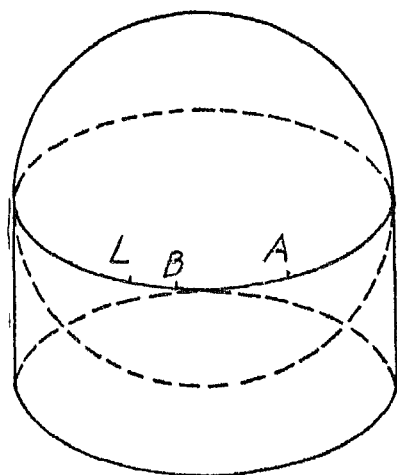


Fig. IV

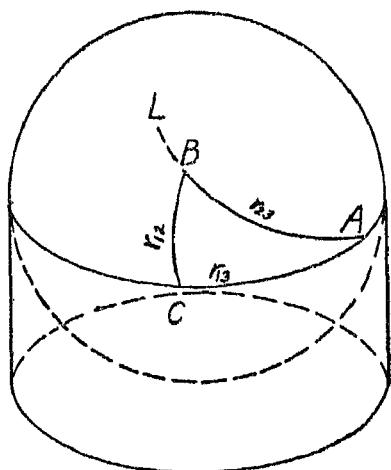


Fig. V

the “ $+1.00$ ” point of the fixed strip and point L is on the perimeter of the cylinder somewhere along the extent of the fixed strip. The reading on the fixed strip at point L corresponds to $r_{12.3}$ (Fig. VII). The other partial correlation coefficients are obtained in similar fashion. (Cosine “distances” along the fixed strip from “ $+1.00$ ” between points G and I , $r_{23.1}$; and \tilde{Y} and H , $r_{13.2}$; as in Fig. VI or III.)

To obtain the multiple R 's most easily, we proceed as follows:

Place point C of the sphere at $+1.00$ of the fixed strip and adjust the sphere until the perimeter of the cylinder describes an arc perpendicular to the side AB of the triangle ABC . This may be judged quite accurately by adjusting the sphere until

AB is parallel to the vertical markings on the fixed strip. The reading on the fixed strip at the point of intersection, " D ," equals $R_{1.23}$.

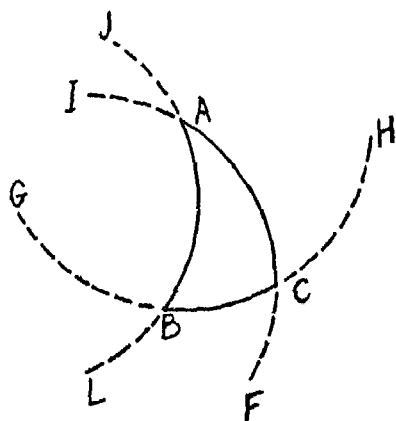


Fig. VI

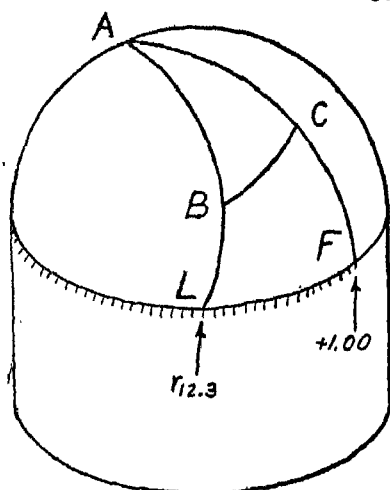


Fig. VII

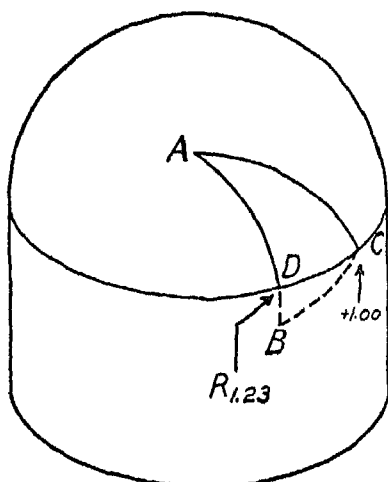


Fig. VIII

If the reader does not trust his judgment in estimating the point of perpendicularity, he may lay the edge of his movable strip along arc AB and move the sphere about until the edge of this strip coincides in direction with markings on the fixed strip (keeping point C always at $+1.00$).

The other multiple-correlation coefficients may be obtained in a similar manner.

Evaluation of this Procedure

The author was able to average about 4 minutes per problem of determining the 3 multiple and 3 partial correlation coefficients from three zero order correlation coefficients. This is compared to a probable 15 minutes for most people for running such a problem off from the usual formulae on a calculator.

The method may be very accurate, but is, however, dependent on the materials used and the carefulness of the computer.

It is admitted, however, that the setting up of the equipment, simple though it is, is not worthwhile unless a large number of such problems is expected to be encountered.

The Use of this Procedure as a Teaching Device

The relationship between certain trigonometric functions and coefficients of correlation and the methods of graphical computation based on these relationships shown here, lend themselves to use in the teaching of statistics courses on the elementary or advanced level.

Close consideration and use of these graphical methods may well serve to give the student a clearer and more functional understanding of the inter-relationships of partial and multiple-correlation coefficients, their dependence on one another for magnitude and direction, the dependence of both sets of variables on zero-order correlation coefficients, the assumptions involved in their determination, the limitations of magnitude, and possibly more important than all the rest, a clearer picture of the concepts of orthogonality and angular measurement of relationship in correlation so important to the study and understanding of factor analysis.

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PREPARATION OF PROFILE CHARTS ON THE IBM TABULATOR

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AN examinee's performance on a battery of tests may be reported graphically in the form of a profile chart or psychograph by means of the I.B.M. Type 405 Alphabetic Accounting Machine. Such a profile is shown in the illustration. The examinee's performance is shown graphically by means of a "o" symbol printed by the tabulator at the appropriate height on the chart corresponding to the examinee's decile standing on each test in the battery. In the illustration the zero symbols have been connected by straight lines, but the drawing of these lines is not essential.

If each examinee has as many I.B.M. cards as he has test scores, the printing of such a chart is a simple matter. The present discussion is concerned with the case where there is only one I.B.M. card for each examinee, and there is a sufficient number of scores per examinee to make it uneconomical or undesirable to prepare as many cards per examinee as there will be lines on the profile chart.

For preparation of such charts in quantity a specially printed continuous-paper form would ordinarily be prepared for use on the tabulator. By use of an automatic carriage, profiles of the type illustrated can be run at the rate of about six per minute, including time for form-to-form ejection. If a profile based on quintiles rather than deciles is satisfactory, it can be obtained, after making wiring changes that will suggest themselves, at almost twice this speed.

If percentile ranks are not readily available, profile charts may be run from cards containing the examinee's scaled scores by the same method. Interpretation of charts prepared in this fashion will be facilitated by printing on the forms, in advance, the percentile ranks corresponding to the scaled score points appearing there.

In order to run the profiles ten blank cards are placed in front of a deck of cards, each of which contains the name and percentile ranks of one examinee, and 10 more blank cards are placed behind the deck. On the first run through the machine a profile will be printed from every eleventh card. The blank

PERCENTILE RANK

TEST: I	II	III	IV	V	VI	VII	VIII
61	4	95	15	73	92	63	34

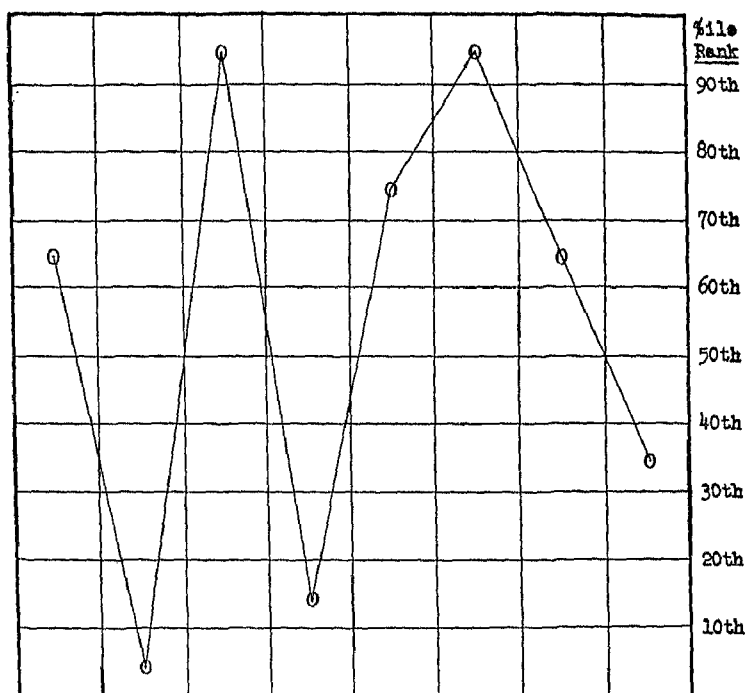


Figure I. Psychograph

cards and the cards of the remaining examinees serve during this run only to provide the ten extra cycles necessary for the printing of the profile.

After the first run, one blank card is removed from in front of the deck and all cards are run through the tabulator again.

Another blank card is then removed from in front of the deck and the procedure is repeated until eleven complete runs have been made. One profile for each examinee will thus have been obtained.

For simplicity, the wiring diagram shows only the wiring necessary for the case when there is only one percentile rank for each examinee. Wiring for ejecting each profile chart after each minor total cycle is not shown. Each additional percentile rank per student requires an additional set of wires like those labeled B, C, I, J, and K. It is assumed for the purposes of the diagram that the examinee's name is punched in columns 21 through 40 of the card, and that his percentile rank is in columns 75 and 76. The explanation of the wiring diagram is as follows:

A. The name is wired to print.

B. The second digit of the percentile rank is wired to print.

C. The first digit of the percentile rank is wired to print for the first card of each group.

D. A card count is added into the left-hand position of counter 8B for all but the first card of each group.

E. The carry impulse emitted by counter 8B after the first 10 cards and after every eleven succeeding cards causes a minor control change.

F. The long hammer levers are impulsed on every control cycle. (The switches are set and the long hammer levers are raised to suppress listing of the name and of the second digit of the percentile rank on all cards except the first card in each control group.)

G. Selector F is picked up after each minor cycle.

H. The paper form is made to advance an extra space after printing of the name.

I. The first digit of the percentile rank is entered into counter 8A from the first card of each group. A card count is added into 8A for all other cards in the group. (This counter must be cleared on minor class of total.)

J. Counter 8A emits a carry impulse whenever the amount in the counter has accumulated to ten. The CI impulse is wired to a type bar entry, but printing is suppressed by means of a short hammerlock. The impulse serves to make the type bar

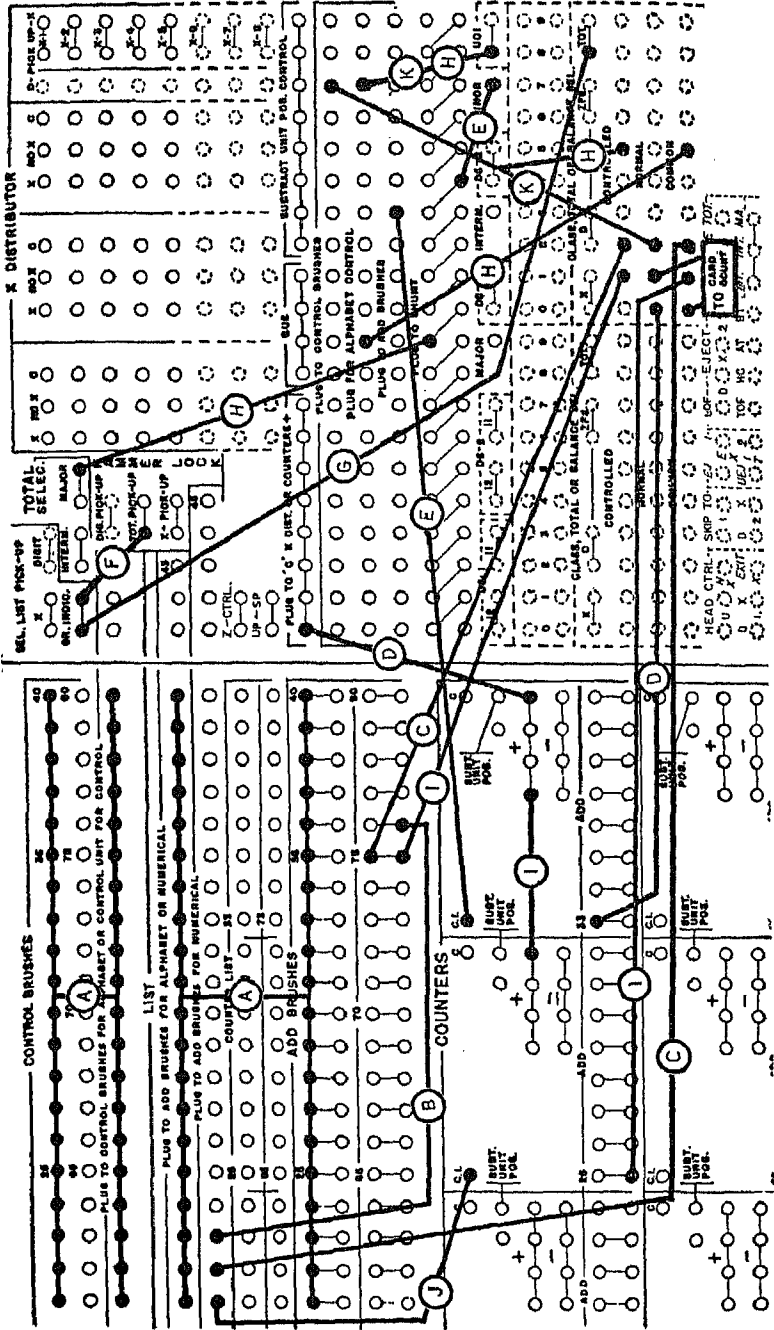


Figure II. Wiring Diagram

to the right print a "o" symbol. This "o" is the symbol used to indicate graphically on the profile the performance of the examinee.

K. This wiring will cause a zero to print on an alphamerical type bar. Where numerical type bars are used, this wiring is unnecessary.

Short and long hammerlocks to be raised are noted above. A zero split should be raised on the type bar carrying the last letter of the name and on the type bar carrying the last digit of each percentile rank. The tabulator is set to list (preferably with double or triple spacing for the sake of appearance), the hammerlock control switch is turned to no-X suppress, and the other switches are kept in their usual positions.

THE THIRD MENTAL MEASUREMENTS YEARBOOK

A REVIEW

by

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Oscar Krisen Buros, Editor. *The Third Mental Measurements Yearbook*. New Brunswick, N. J.: Rutgers University Press, 1949, pp. 1047.

EVERYONE interested in educational or psychological measurement is indebted to Oscar Buros and his collaborators for producing the *Mental Measurements Yearbooks*. The impressive and indispensable current volume lists 663 tests, 713 original reviews by 320 reviewers, 66 excerpts of reviews published elsewhere, and 3,368 references on specific tests. An effort has been made to list all commercially available tests published in English-speaking countries between October, 1940, and December, 1947. Also included are reviews of selected older tests and tests published during the period 1933-1948 not previously covered in the earlier publications of this series. The section entitled "Books and Reviews" lists 549 books on measurements and closely related fields, and 785 excerpts from reviews of these books. As in the case of tests, an effort was made to list all such books published between October, 1940, and December, 1947. Older books are also listed when accompanied by review excerpts not published in the earlier yearbooks.

Most of the important tests have been reviewed independently by two or more reviewers and it is satisfying to note the consistency of these reviews. One is also impressed by the frequency with which reviewers have based their judgments on more than a study of the tests and the test manuals. Some of the reviewers have included in their reviews summarizations of the literature pertaining to the tests reviewed. Other reviewers have written on the basis of experience in using the tests. Relatively few of the reviews seem superficial. Most of the reviews appear sincere and constructively critical. A number of the reviews are excellent discussions of important problems of educational and psychological measurement. The use of the *Yearbook* should not be restricted to the selection of tests. The student will find it a valuable means of increasing his general knowledge and understanding of measurement. Anyone engaged in the production of a test can learn what he must do if he is not ultimately to be criticized. The user of tests cannot help but be made more sensitive to the limitations of test data. One gains from the volume as a whole an appraisal of the present status of testing which can be found in no other single source.

Achievement testers will find particularly helpful the reviews of

achievement batteries and of tests in the various subject-matter fields. Clinical psychologists and psychiatrists will find of greatest interest the numerous reviews, review excerpts, and bibliographical references relevant to projective and other techniques useful in the measurement of personality. All persons engaged in guidance and counseling will also be interested in the wealth of information pertaining to intelligence testing, to the testing of vocational aptitudes, and to interest inventories. Similar comments could be made with respect to the excerpts of reviews of books on measurement and related fields.

The current volume testifies to improvements in testing. A number of achievement tests are now available which evaluate more than the retention of traditional subject-matter information. Advances have been made in the measurement of intelligence, of character and personality, and of vocational interests and aptitudes. But few instruments are free from serious criticism. In achievement testing the frequent criticisms are lack of validity with respect to worth-while educational objectives, dubious dependability of norms, failure to report adequate data with respect to both validity and reliability, cumbersome directions for administration, inefficient scoring procedures, and lack of care in the writing of exercises. Only a few achievement tests have adequate manuals. A number of tests claimed to be diagnostic should only be used to survey achievement. The chief criticisms of personality tests are with respect to validity and with the frequent lack of efforts to determine it. Intelligence tests are praised which measure more than verbal scholastic aptitude. A number are criticized for not being factorially pure, for brevity, for use of IQ's inappropriately obtained, for inadequacy of norms, for meagerness of data on reliability and validity, and for violation of other aspects of good test construction.

Some of the reviewers of achievement tests mention lack of validity for use in progressive schools. In the opinion of the writer some of the criticism of the test producers might well be directed toward educators in general. If the objectives of education are traditional, can testers be blamed for constructing tests largely in terms of such objectives? One may hypothesize that the really effective testing of achievement is currently accomplished, not by the commercially available achievement tests, but by tests produced for local use by test technicians of college examining boards or of city school systems working in close collaboration with teachers.

In concluding this review something should be said with respect to the use of the *Yearbook* in the selection of tests. One needs often to consult the earlier volumes of the series for additional reviews to secure the information needed for a fair evaluation of a test. Consideration should also be given to the possibilities that more recently published test forms than those reviewed may be free from some of the defects criticized and that the test authors may have been impelled to collect better data with respect to validity, reliability, and norms. Unfortunately, these possibilities are too seldom realized. In addition to reading the reviews and references pertaining to tests considered for use, it is advisable to examine the tests themselves and to have others

do so. For example, in planning an achievement testing program, evaluation of the tests considered should involve the participation of representative teachers and, if possible, preliminary trial of the tests before widespread use. The establishment of local norms and the supplementation of the commercial tests by locally constructed ones is also advocated by the writer. The valid measurement of more comprehensive ranges of educational objectives cannot otherwise be accomplished—particularly those objectives which have to do with critical thinking in various subject-matter fields and with the attitudes, ideals, and interests developed in them.

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ADDITIONAL INFORMATION ON CADET PERSONNEL PROBLEMS

Professor T. Ernest Newland, Director of the Psychological Clinic at the University of Tennessee, has received the following information from Dr. Sidney H. Newman, Senior Psychologist, Division of Commissioned Officers, Public Health Service, with reference to Professor Newland's article, "Cadet Personnel Problems and Procedures at the United States Military Academy," which appeared in this journal, Autumn, 1947:

"The Coast Guard Academy obtained a 'full-time professional psychologist' in the person of one J. M. Bobbitt in October 1942, and added one S. H. Newman in April 1943. These two psychologists were in continual service until January 1946, and one psychologist has been continuously on duty at the Academy since that time."